



• HOW WE 'THREATEN' Cable



• M/A-Com's BUNKER Number Two



• TULSA SHOW Report

THE TWICE PER MONTH BUSINESS JOURNAL OF TVRO

## COOP'S SATELLITE DIGEST



JULY 15, 1985



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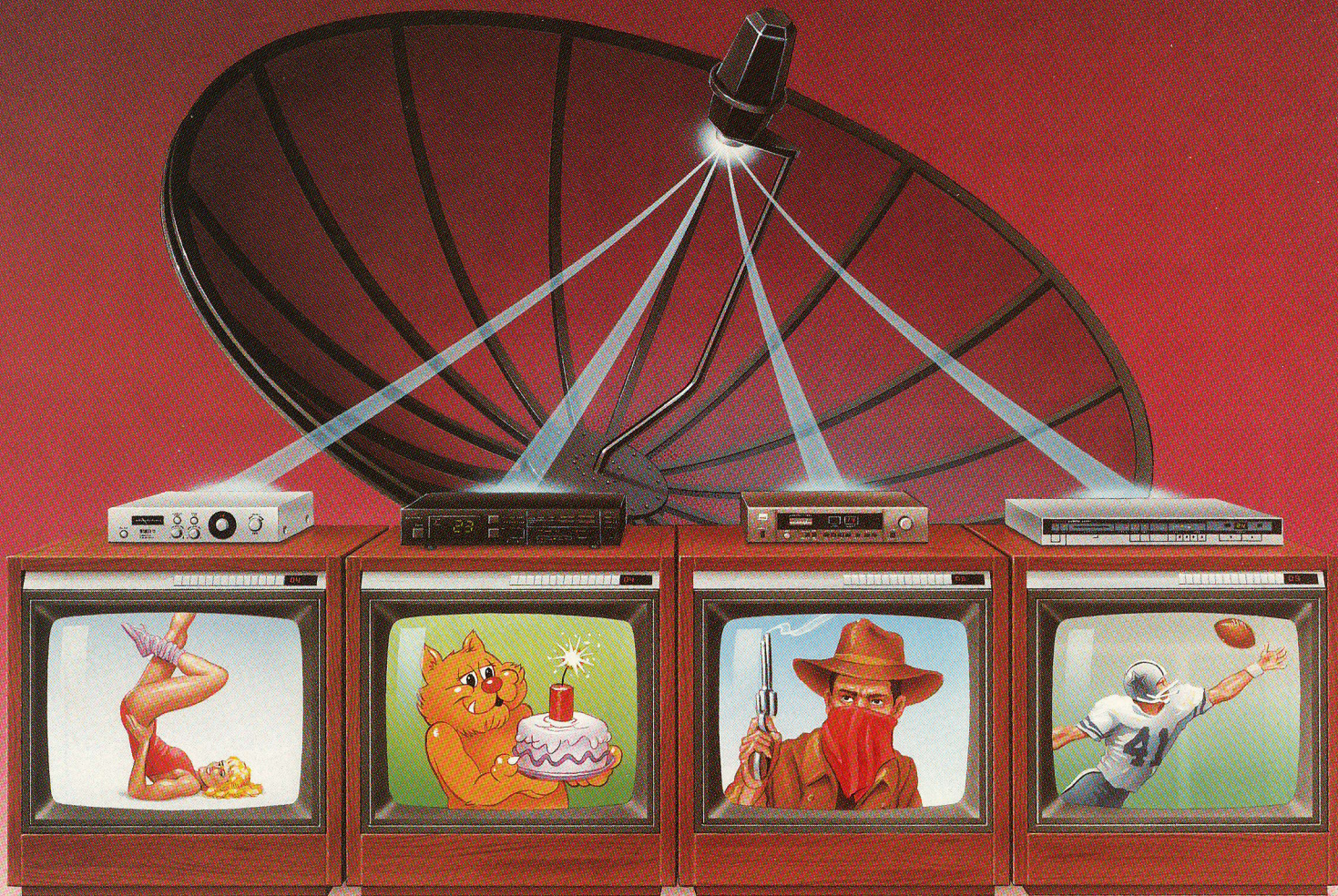
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JULY 15, 1985

**EARLY Feedback**

While attending the STTI/SPACE show late in June, I made it a point to talk at length with dealers, distributors and OEMs about the present 'uneven state' of our industry's finances. By avoiding the temptation to have a booth for **CSD**, I had plenty of time to sit and talk quietly with all levels of the industry and to try to pinpoint 'where we have gone wrong' so far in 1985.

Returning from Tulsa, I was greeted with the first onslaught of seven-page '**1985 Dealer Survey Forms**'; more than 30 in the first day's mail alone. This year's seven-page survey form borders on being 'intensive' and I was worried that dealers would find every excuse not to spend the 30 to 45 minutes required to complete this year's document. I shouldn't have worried because as we go to press it appears we will have more completed survey forms this year, by a wide margin, than any previous year. We'll have the tabulated results in **CSD** for **September 1st** by the way, and a very interesting display of the statistics at our **CSD booth in Nashville** over the Labor Day weekend.

With more than a hundred forms piled on my desk I did a 'spot check' of the health of the dealer sales so far this year. I want to share these **preliminary numbers** with you because it may assist you in your own sales efforts for the balance of the summer.

- 1) Is business at the retail level up, down or the same? Our initial 100+ survey forms say it is **UP**; by **12% over the same period** (January 1 to May 31) of 1984.
- 2) How much does **12%-up** translate to? The average for all dealers completing the first survey forms turned in was **9.79** systems sold during **May** of 1985 (versus **7.07** systems in May of 1984). May was but one of the first five months, however.
- 3) Dealers rate the following (rounded off) percentages for the first five months of the year, to date:
  - A) January — **50%** say it was **UP** over '84, **20%** say down and **30%** say 'the same';

- B) February — **50%** say it was also **UP**, only **10%** say down and **40%** say 'the same';
- C) March — An almost even split between up (**40%**), **down (40%)** and **20%** say it was 'the same';
- D) April — At the retail level, **70%** say it was **UP**, **10%** found it down and **20%** found it 'the same' as '84;
- E) May — **50%** again found it **UP**, with **25%** reporting down and **25%** reporting 'the same.'

Again this caution; these are quickly calculated numbers from only the first 100 or so survey forms turned in and we'll have a detailed analysis in our September 1st edition. Now, what about cable?

**TVRO penetration into cabled areas** may not be rising as fast as some have feared. While certainly the numbers will adjust some as hundreds of additional surveys come in, the first group average says that **28% of all TVROs** sold are now going into cabled backyards. Some have reported numbers closer to 40 or 50% and our findings disagree. At the same time, where cable and TVRO do clash, and TVRO 'wins,' we found **77%** of all homes who buy a TVRO **discontinue cable** after buying TVRO. That is almost 50% higher than previously reported. So it appears, from the preliminary numbers, that while **fewer TVROs** overall may be going into cabled areas, **a greater percentage** of those people who are buying TVRO in cabled areas are discontinuing cable than previously measured.

If **business overall** appears to be **up over 1984**, why then are some major (i.e. significant) distributors finding business down by say 20% over a year ago? Perhaps part of the answer is found in an 'admission' by Uniden recently that during May they shipped slightly more than 20,000 receivers to distributors. If that is an accurate number, it comes very close to equaling 50% of the total TVRO receiver universe for the month of May. And a distributor trying to sell against Uniden, given those sales numbers, **would be** in a 'market-share-loss' position reference one year ago.

**COOP'S  
SATELLITE  
DIGEST  
/2**

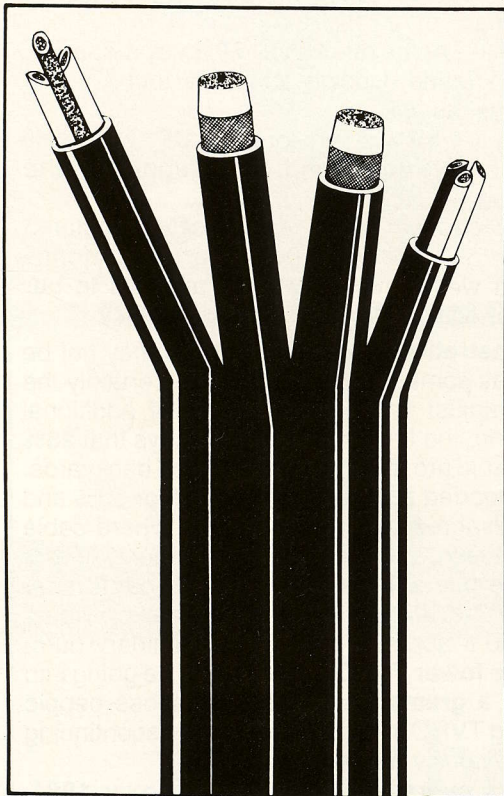


NATIONAL EDITION

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## DISTRIBUTOR DOINGS

**The Antenna Hut** (2141 E. Silver Springs Rd., Ocala, Florida 32670; 800/342-0159 in Florida, 800/824-3106 national) has packaged a system of AFC antennas and Lowrance electronics to make available combination C plus Ku band terminals for dealers.

**Finger Lakes Communications Company** (195 Clark St., Auburn, New York 13021; 315/252-3151) has expanded by adding a 10,000 square foot building designed to allow dealers to inspect the full line of products carried by the firm. The new facility will also be equipped for classroom/seminar training and warranty repair service. Finger Lakes has also recently added the Norsat LNA, LNB and stereo (TVRO) receivers to their product line-up along with the full line of Anderson Scientific receivers. Finger Lakes also introduced 'private delivery' using company vehicles to reduce dealer shipping costs and to speed up the delivery of equipment to dealers in the northeast.

**Northwest Satellite** (715 North Medelia, Spokane, Washington 99202; 509/534-5972) has added the Sigma Satellite Mark II (11 foot) aluminum mesh antenna to their product line-up. Northwest also has sales offices located in Seattle, Billings and Eugene (Oregon).

**SatcoUSA** (800/362-6781 in Ohio; 800/362-8619 nationally) has announced an inventory floor planning (financing) program for qualified dealers buying from any of their five wholesale outlets. The program is backed by the Whirlpool Acceptance Corporation and Borg Warner.

**Satellite Earth Stations Of Florida, Inc.** (4360 SW 36th Street, Orlando, Florida 32674; 305/843-0272, or 800/826-1945 in Florida) opened July 15th. GULFCO Satellite (1206 Moody, Victoria, Texas 512/576-4179) has also become an affiliate of Satellite Earth Stations.

**Satellite Reception Systems, Inc.** (145 Columbus Road, Athens, Ohio 45701; 614/594-2524) held a 'dish-in' at their newest wholesale outlet in the Pittsburgh region in June. Local retailers received a full day antenna education course and dealer Judy Kohler of Kohler Technical Services (Stanfordville, New York) won a \$1,000 cash prize from MTI. SRS also reports remodeling of their DeWitt, Michigan facility is now complete with a new computer system installed. SRS will be hosting SPACE dealer certification courses July 26-27-28 at six locations: Columbus, Cincinnati, Cleveland in Ohio; Charleston (WVA), Pittsburgh (Pa) and Lansing (Mi).

**Satellite Video Services** (RR #1, Box 85-S, Paul Saxe Road, Catskill, New York 12414; 518/678-9581) has a new toll free watts line number in effect at their SVS-Pa (Pennsylvania) store; 800/367-8891 for dealers. SVS also has released a new (20 page) catalog of products for TVRO system installation, including many hard to find accessory items. Dealers may call for their free catalog at any of the SVS locations (Catskill, New York; Hornell, New York; Raymond, New Hampshire or Altoona, Pennsylvania).

## INSTALL Components


**BOMAN Industries** (Satellite Products Division, 9300 Hall Road, Downey, California 90241; 800/352-2553 within California; 800/421-2533 outside California) has announced the 'ULNA', an ultra low noise package with a rated noise temperature of 45 degrees Kelvin. The new 40 dB gain unit carries a five year warranty and comes with certified test data. Other models are also available in the same gain configuration at 55 and 65 degrees Kelvin. Boman has also released specifications on a new BDC receiver, using the 450-950 MHz IF band; the SR-1600. The receiver has a built-in stereo processor (Matrix, discrete), narrow and wideband selection, stereo volume controls, vertical/horizontal selection, a skew slide control and a transponder format push button. Boman also says the unit is 'descrambler ready'.

**HYTEK** (3602 East 20th, Joplin, Missouri 64801; 417/624-4061) has introduced a monolithic 'chip' LNB unit. The 'Super B' block downconverter has a pencil-point sized chip that includes two stages of low noise amplification (gain) plus a complete downconverter.

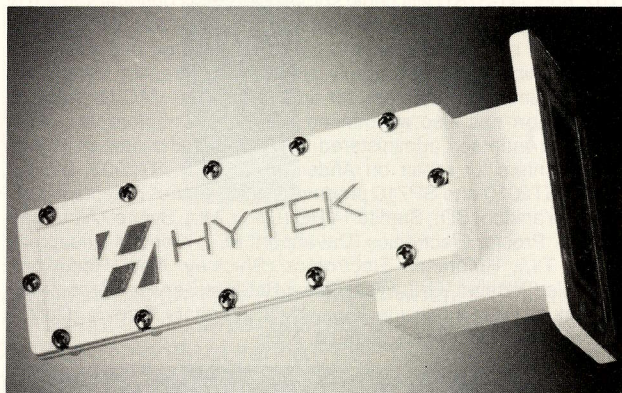
## CORRECTION:

CSD/2 for June 15th reported on the availability of the **SAT-SITE** product from Gourmet Entertaining. The Sat-Site is a dealer install tool created to allow visual check-out of any intended TVRO antenna location for siting clearance of local obstructions. A typographical error mis-listed the firm's telephone which is properly **213/666-2728**.

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Frequency stability is controlled by a DRO device. Hytek also announces their 'Millennium II' LNA available in 55 to 85 degree noise figures. The 48 dB gain unit is non-isolated in design but claims stability features based upon high quality 'matching' between 'internal' gain stages.



MILLENNIUM Thin Line Design from HYTEK

**Microwave Filter Company** (6743 Kinne Street, East Syracuse, New York 13057; 800/448-1666) has created an interesting 'coaxial bandpass filter' for use in situations where **out of band** terrestrial interference is causing problems with LNA or downconverter functions. Model 4711 provides 20 dB of rejection at 3.5 and 4.4 GHz, the nearest out of band frequency assignments typically encountered. The unit is weather sealed, has DC passthrough for powering of LNAs and type N connectors for insertion between the LNA and the downconverter. Price is \$135 and delivery two weeks.

**Newton Electronics, Inc.** (340 E. Middlefield Rd., Mountain View, California 94043; 415/967-1473) has introduced model 1600 satellite simulator testing at a dealer net price of \$995. The test set creates satellite transponder simulated signals at transponders 1, 12 and 24, IF signals at 70 MHz, TV RF signals at VHF channels 3 or 4 and provides DC for the LNA and downconverter.

**Satellite Systems Development** (760 North Willow, Itasca, Illinois 60143; 312/773-6618) has a low cost azimuth and elevation tool for site surveys. The unit has adjustable legs, a 360 degree rotating horizontal plane, a 90/0/90 degree siting vane and measures 12 inches in length. The unit is shipped in five pieces and is constructed from ABS plastic.

## DEALER Selling Assists

**Conifer Corporation** (P.O. Box 1025, Burlington, Iowa 52601; 800/358-3058) has introduced a new approach to servicing dealers directly. During the Tulsa STTI/SPACE show, Conifer announced a dealer direct sales program with a brochure explaining that Conifer had 'killed the middleman'. To back that program up, Conifer is now offering a 60 day 'interest free floor planning program' to (qualified) dealers, 100% co-op advertising for dealers, protected 'trade' areas, an incentive and promotion program and national consumer advertis-



ing. Conifer recently announced new 8 and 10 foot antennas and new receiver electronics.

**SatcoUSA** (800/362-6781 in Ohio; 800/367-8619 outside of Ohio) has a new demo trailer for TVRO dealers. Model GR-1 has a changeable universal mounting post which they claim can be used with virtually any type or size of transportable antenna. The trailer has attractive styling and a heavy duty suspension system. Dealer net price is \$825.

**Uniden Corporation of America** has extended until August 30th their current dealer promotion involving a Caribbean Cruise. Winners will have an all-expense-paid eight day/seven night cruise into the Caribbean aboard the USS Norway, the world's largest cruise vessel. The previous culmination date, July 31st, was extended to August 10th to allow the full availability of the (new) Uniden model 5000, 6000 and 7000 receivers to reach all dealers on an equal basis. The popularity of the new products had resulted in an uneven distribution of the product during the first shipping period and some dealers were not able to participate as they wished because of the shortage of Uniden receivers. Winning dealers will depart on November 9th.

#### RECEIVERS/Receiver Aids

**Anderson Scientific** (2693 E. Commerce Rd., Rapid City, SD 57702; 605/341-3781) will begin shipping a 12 volt optional version of their full line of block downconversion receivers on August 15th. The new product makes possible fully **12 volt operation** of the receiver plus LNA using the 12 volt supply system in a recreation vehicle, for example, eliminating the need for an external 110 VAC connection.

**Anderson** has also announced a list of distributors who have completed Anderson administered training and who now qualify as service centers for repair on Anderson ST1000, ST2000, ST910, ST1010, ST2010 and SP710 products. Included are: Halvorson Distributing (Yankton, SD), Starlite TVRO (Libby, Mt.), Symtel (Albuquerque, NM), Proctor Electronics (Davenport, FL.), K and M Resources (Mathis, Tx.), Heinrich's Electronics (Shickley, Ne.), Reddwood Wholesale (Winston, Or.), West Coast Satellite Service (Greenbrae, Ca.), Saturn Distributing (Jackson, Ky.), Interstate Electric (Dallas, Tx.) and Moog Electronics (Buffalo, NY).



#### ANDERSON's Keith Eliminates 110 Volt Requirement

**Conifer Corporation** (P.O. Box 1025, Burlington, Iowa 52601; 800/358-3058) has introduced their CBF series of TI filters. The notch (trap) device centers 10 MHz above and below the center IF frequency with IF center choices of 70, 130 and 134 MHz available. Notch depth is 45 dB (minimum claimed) and are DC passive for voltage feedthru.

**CZ Labs** (P.O. Box 95, Garnerville, New York 10923; 914/947-1554) has created a line of products designed to assist the TVRO installer with his 900-1450 MHz block downconversion installations.



#### CONIFER's CNF Series offers push-button 60 and 80 MHz

The line up includes two way and four way splitters with a frequency response from 900 to 1500 MHz with power passing through a single port. A new A-B switch for dual LNA/dual BDC systems is functional from 400 to 1500 MHz with 30 dB of isolation between ports. And, a new type ribbon cable with dual runs of RG-6, sweep tested through 1500 MHz for high frequency BDC applications, is also available.

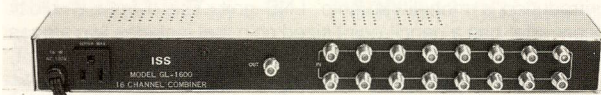
**R.L. Drake Company** (P.O. Box 112, Miamisburg, Ohio 45342; 513/866-2421) is now shipping their new model 424 and 424B (block) receiver packages featuring infrared remote control and audio-seek tuning. The units are descrambler compatible with a concealed clamp/unclamped switch. The B version uses the 950-1450 MHz block IF band and includes input switching for dual LNB installations. Retail pricing is \$699 for the single conversion unit and \$759 for the block unit.

Drake is also shipping their 342B, a block downconversion variation of the popular 324 receiver. The new unit also uses the 950-1450 MHz band for IF and a dual polarity adapter is available for automatic horizontal/vertical switching in dual feed installations.

**Geotech Communications** (355 Sinclair Frontage Road, Milpitas, California 95035; 408/943-8800) has introduced their 8300 model which features video and audio 'fine tuning' and odd/even format button with an illuminated tuning meter. The 8300 unit is designed to compliment the styling of the presently available 8200 16 satellite antenna positioner system.

**International Satellite Systems/ISS** (1004 Del Norte, Menlo Park, California 94025; 415/853-0833) has introduced a new block downconversion **commercial** TVRO rack mounting receiver for CATV and SMATV applications. The receiver has a built-in terrestrial interference trap system (switchable), IF polarity switching, full frequency synthesis, unclamped looped-through baseband for use with any type of scrambling service, and a reduced pricing structure. Model GL-5000 data sheets are available to dealers upon request.

ISS has also introduced a 16 channel CATV/SMATV combining network designed to allow up to 16 separate channel inputs to be combined into a single output cable, with gain through the package. Inputs from +45 dBmV to +60 dBmV can be 'leveled' to +60 dBmV for the output line to drive the cable TV system/SMATV system 'trunk' in.



#### ACTIVE 16 Channel Combiner From ISS

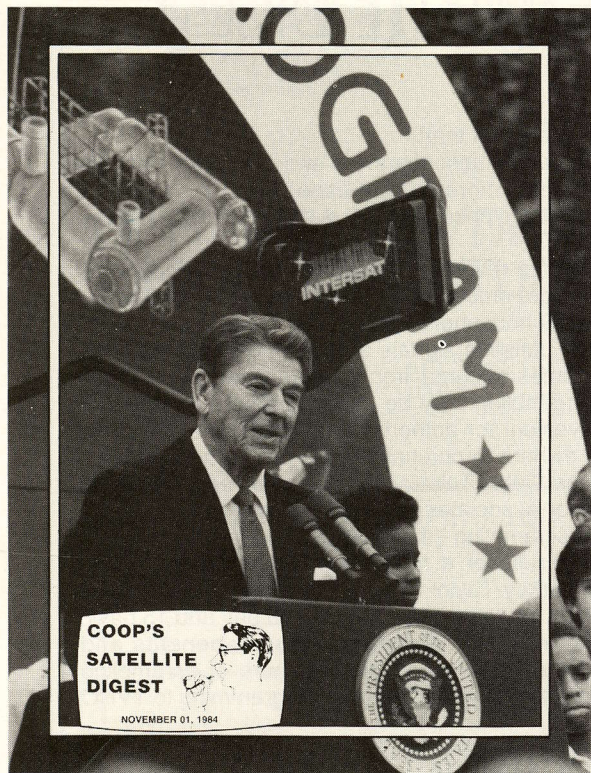
**LUXOR North America Corporation** (P.O. Box 32, Bellevue,

**NEW PRODUCTS/ continues page 26**



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## NCTA STUDY REVEALS HOW WE THREATEN CABLE

### IT DIDN'T 'Just Happen'

Until late in April, the only satellite programmer singing the 'scrambling song' loud and clear was HBO. Then, suddenly, it changed; nearly two-dozen cable programming services joined in the chorus and following what apparently was the same 'hymn book' began chanting the same refrain. The message was clear; cable, most of cable, would scramble most of its satellite delivered programming. So where did the 'cue' to open the hymn book originate?

The NCTA or National Cable Television Association, cable's equivalent of SPACE, commissioned a detailed analysis and study of the 'home TVRO problem' and consulting firm **Malarkey-Taylor Associates** signed on for the job. The actual release of the MTA study would not be public until the NCTA gathered in Las Vegas for their annual convention in early June. However, some members of the cable community, apparently exposed to pre-release copies of the document, began to speak out on the issue in mid-May. We reported on this 'new cable chorus' in our **June 01** issue of **CSD** and brought United Video's **Roy Bliss** to the TV screen on May 30th during a **BORESIGHT** segment.

The Malarkey-Taylor Associates '**Study of the Economic Impact of Scrambling on Cable Operators and Programmers**' is now widely available. However, chances are that you, the TVRO dealer or TVRO distributor, may not have seen this document. So **CSD** is republishing the document as released, essentially unchanged, except for our own 'in-the-margin' comments and observations where we believe some additional explanation is required.

Remember, please, you are reading what started out as an 'insider cable document' and the audience envisioned for this document was not TVRO dealers but rather your friendly, neighborhood, cable operator.

### INTRODUCTION

Approximately 1 million U.S. households own TVRO systems or backyard dishes. At least 40,000 new backyard dishes are being sold each month, and about one out of every three new dish sales occur inside cable franchise areas. It is estimated that there will be between 4 and 6 million backyard dishes in America by 1990 (1).

This rapid growth of TVRO is a problem for the cable industry, not because TVRO is an alternate entertainment delivery system, but because cable program signals are being received for free by some households (those with TVRO), while cable subscribers are paying for the same programming.

What this means is that:

- (A) Some cable subscribers are switching from cable to TVRO, and more can be expected to do so in the future, as the price of TVRO systems declines dramatically;
- (B) A potential revenue opportunity for cable operators and programmers from selling satellite programming to TVRO households is lost.

If, however, satellite signals are scrambled, cable programming becomes secured from unauthorized use. At the same time, scrambling may be accomplished in a way that makes it convenient for authorized TVRO homes and other earth station owners to purchase cable programming.

The National Cable Television Association commissioned Malarkey-Taylor Associates to conduct a study of the economic effects of scrambling cable program signals. This report presents the results of a financial cost-benefit model developed by Malarkey-Taylor to analyze the benefits and costs of scrambling 21 cable program services (6 pay and 15 basic services). We focus on the **direct economic benefits and costs** to cable operators and programmers of scrambling satellite signals and selling scrambled programming to TVRO owners.

### COSTS OF SCRAMBLING

An infra-structure must be set up to implement satellite scrambling, and capital costs must be incurred for scrambling/descrambling hardware and software. The infra-structure should efficiently serve the needs of operators, programmers, equipment manufacturers and TVRO households, by providing for the security of programmers' signals and delivering scrambled programming to TVRO homes.

**One possible configuration** of the scrambling infra-structure is shown on **Chart 1**. Programmers scramble their signals and transmit them to the satellite via an uplink. The signals are then received and decoded by cable operators who have installed descramblers at the headend, and by TVRO owners who have purchased/leased a decoder and ordered the programming. A central host computer activates and de-activates TVRO home decoders, monitors who is receiving scrambled signals and provides data to programmers for billing. A programmer would have access to this host computer and uplink system for a one-time-only access charge of approximately \$100,000, plus a share of annual administrative expenses. Administrative costs of the host computer system are estimated at no more than \$1 million per year (2).

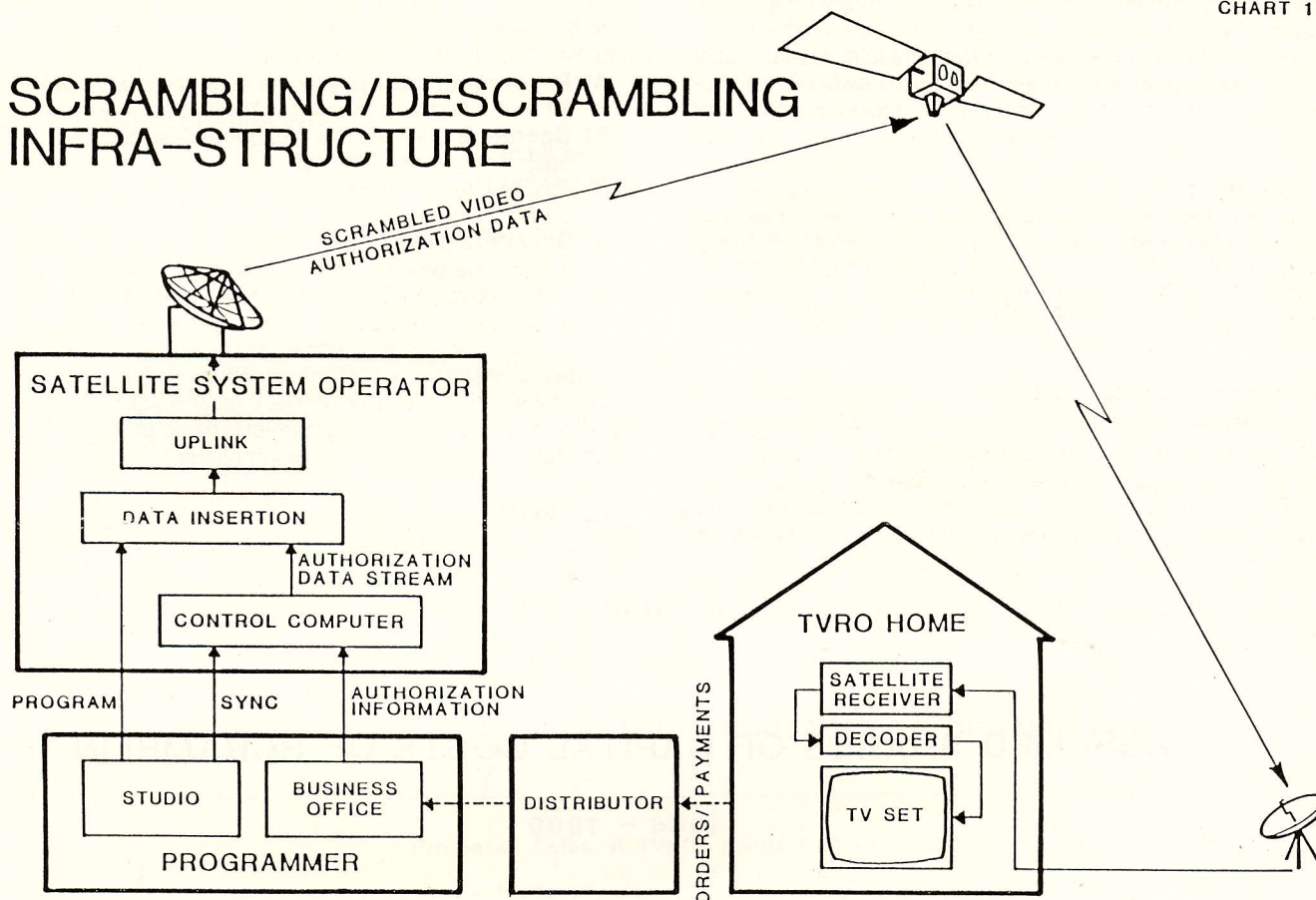
In addition to the host computer access costs, scrambling uplink expenditures will be required for a computer at the scrambling facility to control signal addressability and a scrambling sub-system that provides fully redundant signal scrambling and encryption. These expenditures are estimated at approximately \$200,000 per scrambled program service, or

- 1/ **Our estimates** of TVRO sales are derived from calculations and projections developed by The Home Satellite Newsletter (Volume 1, #1, March 4, 1985), with appropriate modifications based on Malarkey-Taylor's experience in the industry.
- 2/ **Estimates** of the one-time access fee, annual administrative costs of the host computer and scrambling uplink costs are derived from interviews with hardware manufacturers.



CHART 1

# SCRAMBLING/DESCRAMBLING INFRA-STRUCTURE



**CHART ONE/** The 'scrambling system' envisioned and modeled by Malarkey-Taylor Associates. Note the chart does not actually 'show' a cable system operator 'presence' in graphic form. The written text corrects this 'oversight.'

a total of \$4.2 million if **21 services** scramble their signals.

There are, to be sure, other proposed configurations and systems for implementing scrambling, and some may be equally or even more cost-effective. For purposes of this research, cost estimates are based on the configuration shown in **Chart 1**.

It should also be noted that it may be possible for programmers to incur lower scrambling uplink costs, especially if a cooperative organization were to be formed for the purpose of order taking, scrambling signals, interfacing with the host computer and, perhaps, billing.

**COMMENT:** The Malarkey-Taylor scenario, with a 'host computer' and individual basic and premium services contributing to the installation, upkeep and operation of the host computer has subsequently become the model for a wide range of would-be program service planners. The concept actually originated with either HBO or Canaan Communications more than one year ago. See comments of M/A-Com's **Jim Bunker** in **CSD** for July 1st, page 9.

## Headend Descramblers

For each program service that scrambles its satellite signal, one descrambler unit is required at the headend of every affiliate. These headend descramblers are the dominant capital costs of descrambling, since every cable system will require one headend descrambler for each scrambled program

service that it carries. In addition, at least one spare descrambler would be needed for each system (or about 20% of total descramblers for spares), and additional descramblers may also be required for systems with more than one autonomous headend receiving direct satellite signals.

If 21 programmers scramble their signals, we estimate that a total of 100,000 headend descramblers will be required for the industry as a whole, at a cost of approximately \$500 each, for a total initial capital cost of approximately \$50 million.

	6 Pay Services	15 Basic Services	Total
Headend descramblers	23,000	54,000	77,000
Spares and others	7,000	16,000	23,000
<b>Total Descramblers</b>	<b>30,000</b>	<b>70,000</b>	<b>100,000</b>
<b>Total Cost (@ \$500 per)</b>	<b>\$15M</b>	<b>\$35M</b>	<b>\$50M</b>

**COMMENT:** The price for cable-grade VC2C descramblers has now dropped to \$385 per unit according to M/A-Com's **Jim Bunker**, interviewed in **CSD** for July 1st.

Over time, as new builds, re-builds and upgrades occur, additional headend descramblers will be needed. For the



Period 1986 through 1990, we project 30 major new builds, about 75 small new builds per year and between 400 and 500 system rebuilds or upgrades per year. The total capital cost of providing headend descramblers for these newbuilds and upgrades is estimated to be between \$2 and \$2.5 million per year.

**COMMENT:** The actual identity of the '21 to-be-scrambled' services, noted here as 6 pay services and 15 basic services, has never been revealed. Additionally, the total number of satellite **channels** involved is greater than 21 since several services (i.e. Cinemax, HBO, Showtime, The Movie Channel) operate **a pair of feeds** for east and west coast time zones. Thus the total number of **scrambled channels** becomes **25 or more** in this plan.

#### Allocation of Capital Costs

To determine the net financial impact of scrambling, capital costs must be allocated between operators and programmers and subtracted from the financial benefits of scrambling.

Because both operators and programmers stand to benefit from industry-wide scrambling of satellite signals, Malarkey-

Taylor's analysis assumes that operators and programmers share the capital expenditures needed to implement scrambling, with the shares allocated as follows:

- A) **Pay programmers pay** for the headend descramblers for their affiliates (though not for spares).
- B) **Operators pay** for the headend descramblers for basic services that they carry.
- C) **Pay and basic** programmers pay for scrambling uplink costs.
- D) **Operators pay** a portion of the central host computer access charges, for those programmers who are unable to cover the \$100,000 access fee from their own resources. Of course, other possible financing arrangements are feasible, such as hardware suppliers financing part of these costs.

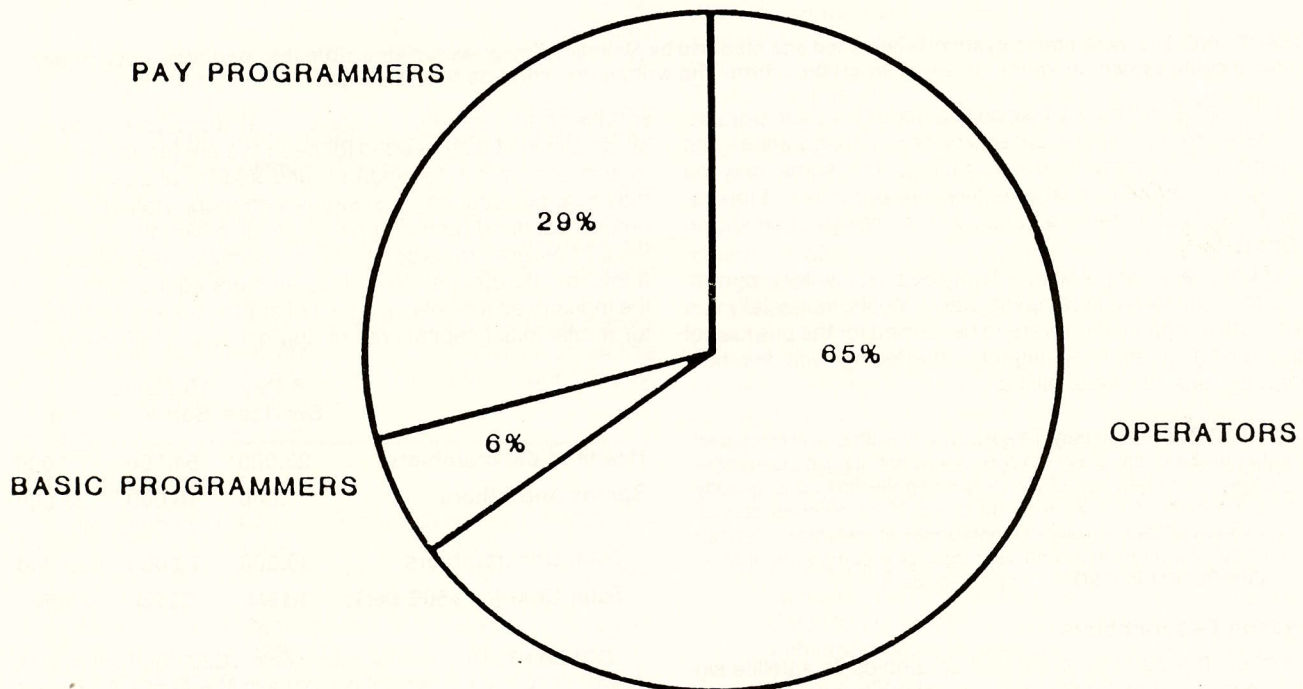
**Chart 2** shows the shares of total capital costs of scrambling, allocated among pay programmers, basic programmers and operators according to our assumptions.

**COMMENT:** Some of the larger multiple system operators (MSOs) have offered to pay the uplink scrambler costs for the margin-

CHART 2

### ASSUMED SHARES OF CAPITAL COSTS OF SCRAMBLING

1986 - 1990



**CHART TWO/** How the entrance-fee (capital) costs of creating a 21 channel/service scrambled satellite environment would be split between programmers and cable operators. Note the cable systems would carry the bulk of the dollar investment 'load.'



al (or still money losing) 'basic' services. There are no specific examples cited, but it is likely that The Weather Channel, ARTS, Bravo and a handful of others would find scrambling more palatable if the MSOs picked up their uplinking expenses.

### BENEFITS OF SCRAMBLING

The following potential revenue sources could be tapped by cable operators and programmers if an effective industry-wide scrambling system were in place:

- 1) Sale of cable programming to TVRO households **inside** cable franchise areas.
- 2) Sale of cable programming to TVRO households **outside** cable franchise areas.
- 3) Sale of cable programming to those current and future cable subscribers who would **otherwise buy** a backyard dish and get free programming.
- 4) Sale of cable programming to those **SMATV operators**, hotels, bars, etc. who currently receive direct satellite signals and re-sell programming **without** contractual arrangements to pay for the programming.
- 5) Greater subscriber retention due to:

Programmers re-investing part of their incremental revenues from TVRO and SMATV sales into their product, and thereby enhancing the

quality and appeal of cable programming.

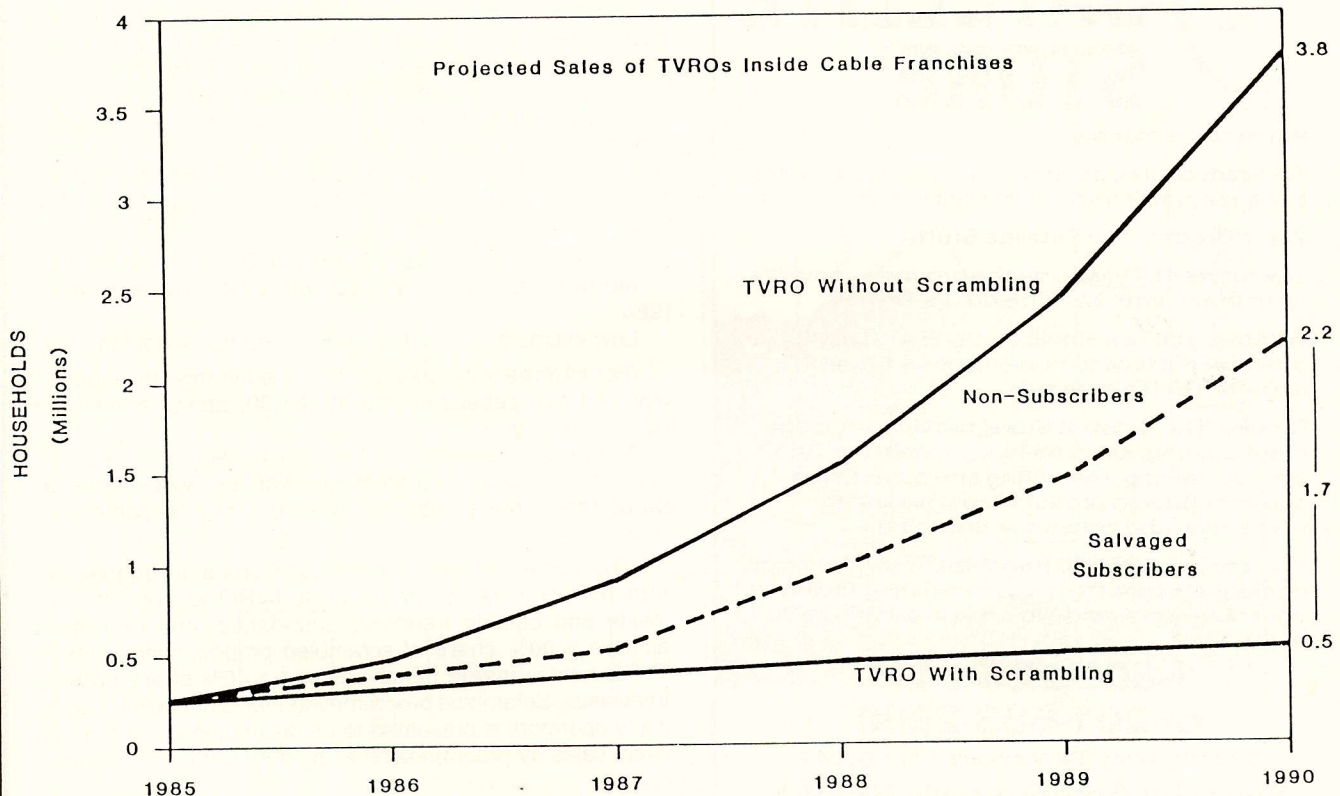
Operators re-investing part of their incremental revenues from TVRO sales into plant, service, marketing, etc., and thereby better servicing subscribers.

- 6) Increase in local **advertising revenues** to operators due to higher subscriber counts with scrambling than without.
- 7) Sale, lease or servicing of **TVRO systems** and in-home decoders (i.e., **the hardware side of the TVRO business**).
- 8) The ability of programmers to know exactly **who is receiving** their programming.

**COMMENT:** Of the eight 'benefit-points' cited, key are numbers 3, 4 and 7. By making the cost of scrambled programming **high**, and applicable to all TVRO owners, cable hopes to persuade consumers to **choose cable** rather than TVRO (3). This point comes back, more strongly, as 'salvaged subscribers' in the next sub-heading. Cable continues to locate SMATV systems 'taking' HBO and other services without benefit of service contracts and cable operators continue to lose commercial customers to dish-owning hotel and motel properties (4). Although the study says it will focus only on benefits 1 through 3, benefit seven clearly suggests that **the cable operator should also**

CHART 3

### SALVAGED SUBSCRIBERS ATTRIBUTABLE TO SCRAMBLING



**CHART THREE/** a 'salvaged subscriber' is one which the local cable system operator 'retains' or 'holds onto' as a result of satellite program scrambling. The study estimates as many as 2.2 million US homes would purchase a TVRO and drop cable by 1990 without signal scrambling; that number drops to 0.5 million with scrambling. The 1.7 million subscribers 'salvaged' by cable are also 1.7 million home TVRO system sales 'lost' by the TVRO industry, if this forecast is accurate.



sell TVRO systems (retail); i.e. "the hardware side of the TVRO business."

The cost-benefit analysis presented in this report deals only with the first three benefits: **sale of scrambled programming to TVRO households inside and outside cable franchises, and prevention of subscriber erosion to TVROs.** The other benefits of scrambling are just as real, and could make a significant positive impact on the cable industry, though attempts to measure such benefits are beyond the scope of this study.

#### ENTRANCE INTO TVRO BY CABLE:

**Brooks/** The Satellite Store, <sup>TM</sup> a 1984 launched franchise store operation headed up by a former executive from M/A-Com, has begun aggressive marketing of their franchise store concept **directly to cable television system operators.** In this cable trade-publication advertisement, Brooks tells cable **"We are cable friendly"** and it notes **"We want cable operators as franchise owners . . ."** Some have interpreted the 'cable friendly attitude' of Brooks as being quite **UNfriendly** to TVRO.



## THE SATELLITE STORE<sup>TM</sup>

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**We want cable operators as franchise owners. Because just like you — we sell entertainment.**

**We're Brooks 'The Satellite Store'**

**The future of TV was on the ground — now it's up in the air with TVRO, SMATV & DBS.**

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**Brooks 'The Satellite Store' provides management training, sales training, installation and service training, marketing and advertising support, proven product lines, extended warranties and consumer financing.**

**You provide \$25,000 franchise fee and enough additional capital to get your existing facility or your new store ready to open in as little as 30 to 60 days.**

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#### Salvaged Subscribers

If current and potential subscribers face the choice of paying a monthly fee for cable programming, **or buying a backyard dish** and receiving all programming for **free**, some will opt for the dish. If instead everyone must pay a monthly fee for satellite programming, **with or without a backyard dish**, many of those who would have opted for the dish will now take cable.

**Chart 3** shows how our estimate of salvaged subscribers was derived. The sale of TVROs inside cable areas is conservatively projected **to grow** at an annual average rate of **65%**, if there is no scrambling of satellite signals (top line on Chart 3). **If**, on the other hand, **most cable services scramble** their signals, the sale of TVROs inside franchises is expected to show minimal growth (bottom line). The difference between the top and bottom lines on the chart represents the **potential** loss of cable subscribers to TVRO, while the area between the dotted line and bottom line represents the **actual**, estimated loss of subscribers implemented.

**COMMENT:** This is what it is all about; **everything else is hype and hyperbole.** The cable industry looked at how many subscribers it could lose, overall, by 1990 and the number was significant (Chart 3). At the 1990 projected 'value-per-subscriber' of \$1094, cable as an industry saw 'assets draining' away to TVRO. Cable system owners, rightfully or wrongly, regard every paying subscriber as an 'asset' and as United Video's Roy Bliss noted in our June 1st issue of **CSD**, they are "paranoid" about losing 'their (assets) subscribers.'

#### Estimates of Direct Financial Benefits of Scrambling

A financial model was used to estimate the net operating income that will accrue to cable operators and programmers, from the sale of scrambled programming to TVRO homes and from salvaged subscribers, if **21** cable services scramble their signals **by early 1986.** High, medium and low estimates of net operating income were developed, based on three assumptions about the average revenue per TVRO household obtained by operators and programmers from the sale of scrambled programming:

High estimate: \$26.00 per TVRO household in 1986

**Medium estimate: \$21.00 per TVRO household in 1986**

Low estimate: \$16.00 per TVRO household in 1986

(For all three revenue estimates, the average revenue per salvaged subscriber remains at \$21.00, approximately the industry average.)

The medium estimate of \$21.00 is based on an assumption that scrambled programming is sold to TVRO homes **at about the same prices** as those charged to cable subscribers.

The model also assumes that cable operators aggressively market scrambled programming to TVRO households, both inside and outside franchise boundaries, and **operators** achieve a **90% share** of scrambled programming sales to TVRO homes **inside** franchises and a **40% share outside** franchises. Scrambled programming that is not distributed by cable operators is presumed to be distributed either through direct sales by programmers, or by third party distributors.

**COMMENT:** Malarkey-Taylor suggests that within their own franchise territory, **cable systems will sell 90%** of all TVRO owners their scrambled programming (descramblers, and perhaps 'hardware') while in the region surrounding the franchise (cabled) region, they will sell 40% of the TVRO systems sold (descramblers, program-



ming, and perhaps hardware). Extrapolation of the Malarkey-Taylor numbers reveals they anticipate by 1990 there will be 1.6 homes outside of the cabled areas with TVRO for each home with TVRO within a cabled area. This means Malarkey-Taylor is suggesting that **cable operators could 'capture' 59% of the total TVRO 'market-place universe' by 1990.**

The model generates the following net operating income estimates for the period 1986 through 1990, before accounting for taxes, interest and capital costs:

	Range of Estimates		
	High	Medium	Low
	\$M	\$M	\$M
Cable Operators:	692.6	604.5	516.3
Cable Programmers:	519.5	424.3	329.2
Total	1,212.1	1,028.8	845.5

**Chart 4** illustrates these benefits to operators and programmers by sources of income.

A few points should be noted:

- 1) The estimates are net present values of gross revenues minus operating expenses projected for the five year period.
- 2) Operators are shown to obtain a larger share of net operating income than programmers in part because operators derive greater revenue from salvaged subscribers than programmers.

**COMMENT:** Malarkey-Taylor finds that for an expenditure of \$40M, the cable operators will net (after capital costs, taxes and interest) as much as \$280M from tapping into the home TVRO market. That's turning money completely over 7 times in five years or the equivalent of nearly 260% interest on investment within five years; not bad. In fact, when you also add their estimated 1,705,000 'salvaged subscribers' with a cumulative asset value of more than **\$1.7B**, the return becomes considerably greater than 'usury.'

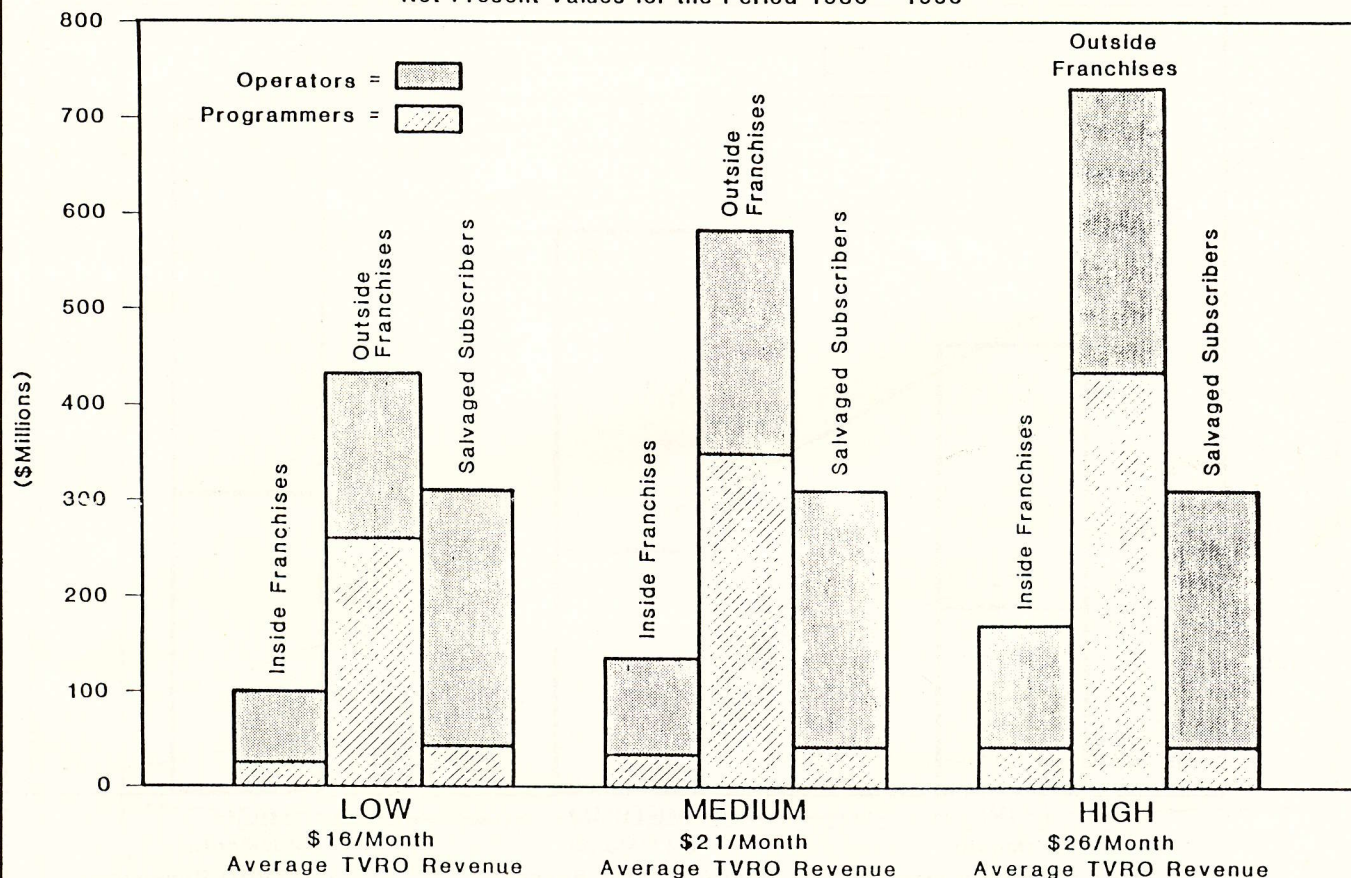
#### NET FINANCIAL IMPACT OF SCRAMBLING

The net financial impact of scrambling is defined, for the

CHART 4

### OPERATING INCOME FROM SALE OF PROGRAMMING TO TVRO HOMES AND SALVAGED SUBSCRIBERS

Net Present Values for the Period 1986 - 1990



NOTE: The salvaged subscriber estimates are the same for each scenario, since the same average revenue (\$21.00) is obtained from subscribers in all three cases.

**CHART FOUR/** Additional income to cable programmers and local cable systems at three subscriber-dollar levels, per month as a result of scrambling. The study assumes that 70% of all TVRO served homes would subscribe to scrambled programming, to arrive at these numbers.



purposes of this research, as the difference between present values of net operating incomes from scrambling (benefits) and total capital costs. The research indicates that the **total direct financial benefit** of scrambling to cable operators

and programmers **far exceeds the total costs**. This seems to be true for virtually any set of reasonable assumptions and estimates, **as long as scrambling is industry-wide** and the scrambling infra-structure is reasonably cost-effective.

#### M/A-COM Accepting Orders

M/A-Com began accepting formal orders for home style TVRO descramblers on June 18th. Parts to build the first 100,000 units are reportedly being assembled by the firm for production of VC2000E descramblers in their Puerto Rico facility.

**Frank Drendel**, Vice Chairman of M/A-Com also announced that "We expect that with (other) equipment suppliers licensing our technology, more than sufficient quantities of consumer units will be readily available by **the summer of 1986** (emphasis added; ed.)" Drendel also noted that the firm has produced 'more than 25,000 (CATV) headend descramblers to date'.

As shown in **Chart 5**, our cost-benefit model generates the following net present values of cash flows, over a five year period, after deducting capital costs, interest and taxes from the scrambling revenue streams:

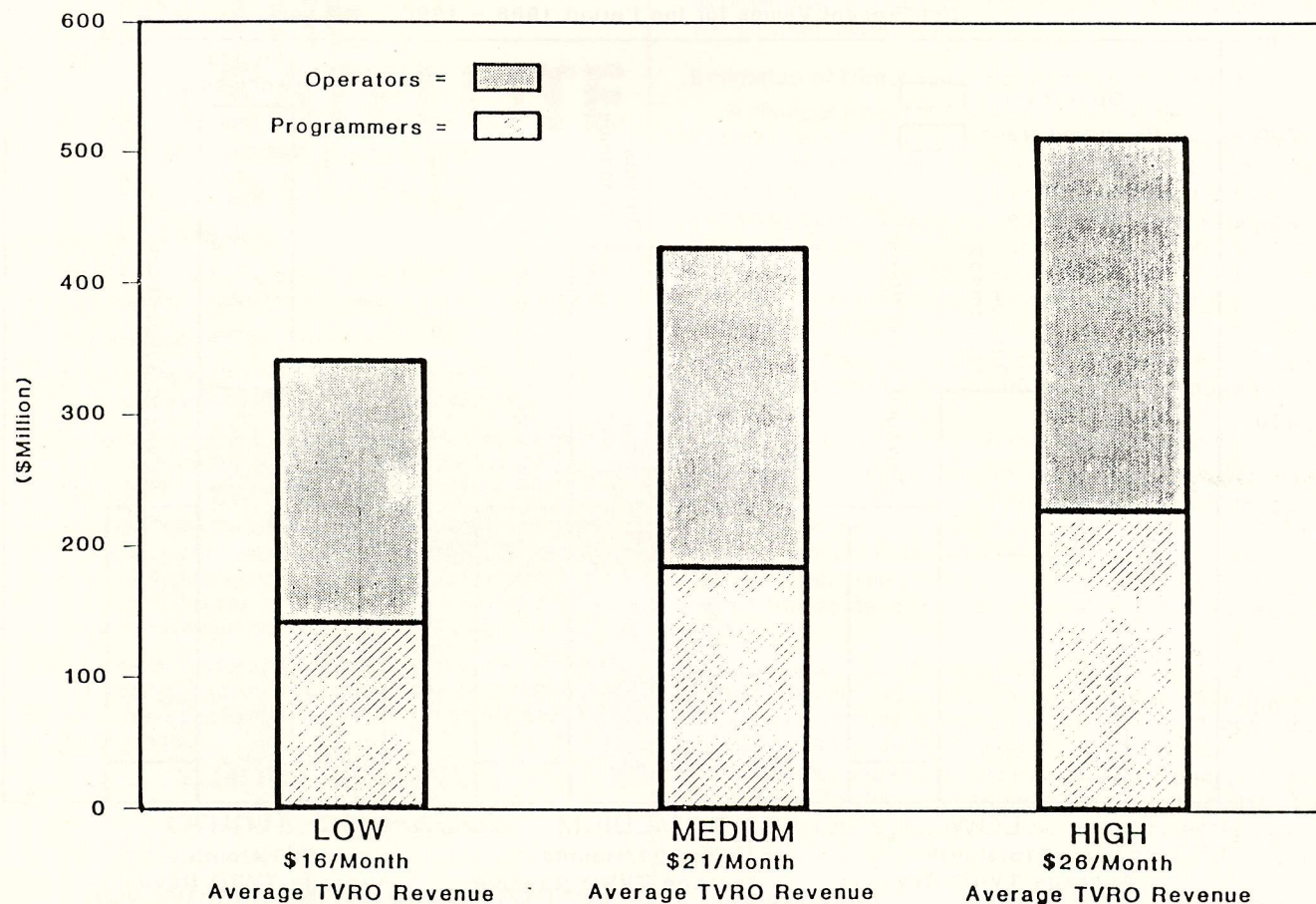
	Range of Estimates		
	High	Medium	Low
	\$M	\$M	\$M
Cable Operators:	283.1	242.0	200.9
Cable Programmers:	229.1	184.8	140.5
Total:	512.2	426.8	341.4

It must be remembered that incremental revenues from SMATV and from hotels, motels and bars are **not included** in the above estimates.

Chart 5

### NET FINANCIAL BENEFITS OF SCRAMBLING

Net Present Values for the Period 1986 - 1990



**CHART FIVE/** Net dollars to cable operators (solid gray) and cable programmers (diagonal shaded area) as a result of three different pricing strategies. According to Malarkey-Taylor, the typical US cable subscribing home presently spends \$21 a month with the cable operator for both basic and some level of premium programming.



These bottom-line results (see Chart 5) are based on the assumption that operators aggressively market scrambled programming to TVRO homes, **inside and outside franchise boundaries**. We also assume that **programmers** will be selling programming directly to a significant portion (40%) of TVRO homes outside franchises, and these direct sales make a substantial contribution to programmers' financial benefits from scrambling.

#### Cable Operators' Perspective

The model suggests that cable operators in the aggregate will gain between **\$200 and \$280 million incremental net revenues** from scrambling (after capital costs, taxes and interest) **over the next five years**. The capital costs of headend descramblers for 15 or so basic program services would total about \$40 million, at most, and **this initial investment** would be **recouped within the first year** of scrambling, if operators undertook such an investment.

This is a case where the short run financial advantage coincides and reinforces the long run objective of insuring industry security and stability.

Another way to look at the financial benefits of scrambling to operators is to **consider the market value** of current and prospective subscribers who would switch to TVROs if there were no scrambling.

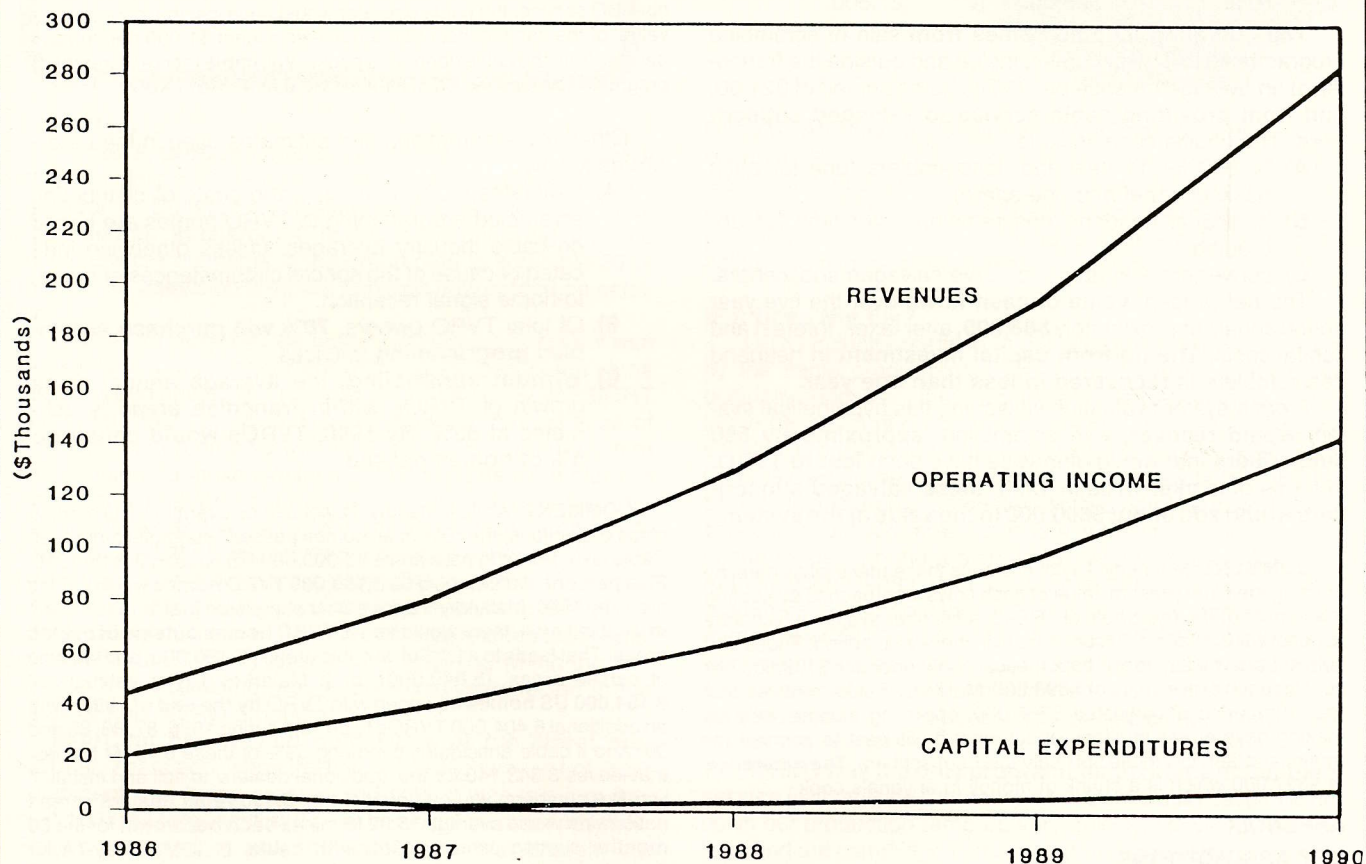
We estimate **these salvaged subscribers** as follows:

Year	Cumulative Salvaged Subscribers #
1986	71,500
1987	202,500
1988	478,500
1989	909,000
1990	1,705,000

By 1990, the **market value** of these **salvaged subscribers** (at \$1094 per subscriber, inflated from a current year estimate of \$900) would be approximately **1.7 billion dollars**, implying an increase of \$1.7 billion in the market value of **all cable systems in 1990**, with scrambling compared to without scrambling. Of course, the market valuation per subscriber is

CHART 6

#### BENEFITS AND COSTS OF SCRAMBLING TO HYPOTHETICAL CABLE SYSTEM



**CHART SIX/** A hypothetical cable system with 15,000 subscribers would realize additional operating revenues approaching \$280,000 per year by 1990, as a result of cable satellite scrambling. Additionally, the same cable system is expected to retain (and add) 550 ('salvaged') subscribers between 1986 and 1990; an increase of that cable system's net worth by nearly \$600,000. And **THAT is the bottom line**; retention of subscribers.



constantly changing, and could in fact be higher or lower than our projection for 1990.

### A HYPOTHETICAL CABLE SYSTEM

The financial impact of scrambling on cable operators can perhaps be seen more clearly by looking at a single cable system.

**Consider a hypothetical cable system**, of some 15,000 subscribers, offering 10 channels of basic satellite programming and 3 or 4 pays. After industry-wide scrambling, assume the cable company aggressively markets cable programming to TVRO homes inside and outside its franchise, and is able to achieve about a **40% share** of the TVRO market **outside**, but adjacent to, his franchise. (Inside the franchise, the operator presumably achieves at least a 90% share.)

The cost-benefit model generates the following results (see **Chart 6**):

Year	Operating Income	Capital Expenditures
	\$	\$
1986	21,000	7,000
1987	40,000	1,700
1988	65,000	3,300
1989	97,000	5,900
1990	143,000	9,900
Total	366,000	27,800

**The operating income comes from** sale of scrambled programming to TVRO homes, inside and outside the franchise at an average revenue per TVRO home served of \$21.00, and from providing cable service to salvaged subscribers. The capital costs include:

- A) \$5,500 for 11 headend descramblers (one for each basic channel and one spare),
- B) additional headend descramblers over time for upgrading,
- C) converters and drops to serve salvaged subscribers.

The **net present value of cash flows** over the five year period equals approximately **\$88,000**, after taxes, interest and capital costs. **The up-front capital investment** in headend descramblers **is recovered in less than one year**.

From a system valuation viewpoint, this hypothetical system **would recover**, with scrambling, **approximately 550 subscribers** that would otherwise have been **lost to TVRO**. In terms of market value in 1990, **these salvaged subscribers would add about \$600,000 to the value of the system**.

**COMMENT:** Malarkey-Taylor misleads the reader slightly here, by electing their 'net present value of cash flows' approach to evaluating the impact of the hypothetical 15,000 subscriber system which they suggest will 'salvage' 550 subscribers in the 5-year period. Those 550 subscribers will pay to the hypothetical cable operator \$138,600 per year for each of five years **or \$693,000**. Malarkey-Taylor 'reduces' this real number to an adjusted \$366,000 'operating income' tally by making several assumptions about what it will cost to connect (or retain) and 'service' those 550 'salvaged' subscribers. **The difference is \$327,000** which is a chunk of money in anyone's book.

### APPENDIX

#### KEY ASSUMPTIONS

Our analysis is based on a cost-benefit model of projected incremental revenues, expenses and capital costs to cable operators and programmers for the period 1986-1990. To compare the situations with and without scrambling **we have**

**made the following assumptions** about how scrambling will take place.

- 1) **At least 21 cable programming services** will scramble their satellite signals **by the beginning of 1986**, and implement a **user-friendly way for TVRO owners** to buy and de-code scrambled programming. The scrambled services will include at least six major, national pay programmers and about 15 basic programmers (including 2 or 3 super stations).
- 2) A cost-effective infra-structure will be established to enable programmers to scramble, operators to de-scramble at the headend and TVRO homes to de-code and receive scrambled programming.
- 3) **Scrambled programming will be sold to TVRO homes on the basis of a price structure that is comparable to the cost of programming to cable subscribers.**

**COMMENT:** There is at the present time a total unwillingness to even **consider** the possibility that home TVRO owners will be able to buy scrambled services **for less than** the cable subscriber pays. The TVRO argument that the satellite viewer is making the total capital investment for his system is unappealing to cable because cable cannot allow the TVRO owner to purchase HBO (for example) for even a penny less than cable subscribers pay. **Why?** If there is any significant 'price advantage' to watching HBO (et al) 'direct,' rather than through cable, this might cause additional cable viewers to elect to own a TVRO. **Even if** the cable operator ended up selling the TVRO-convert his HBO service, the cable operator would have lost the 'capital asset value' of the cable subscriber; a not insignificant \$1,000 per subscriber loss from the cable operator's books. Will **cable** market scrambled programs **for less** via satellite than via cable? **Not likely.**

Other key assumptions and estimates used in the model are as follows:

- 4) Estimates of the revenues and costs of distributing scrambled programming to TVRO homes are based on cable industry averages, unless otherwise indicated because of the special circumstances of direct-to-home signal reception.
- 5) Of total TVRO owners, **70% will purchase scrambled programming services.**
- 6) **Without scrambling**, the average annual sales growth of TVROs **within franchise areas** is estimated at **65%**. **By 1990, TVROs would penetrate 5% of homes passed.**

**COMMENT:** While Malarkey-Taylor avoids overall TVRO marketplace projections, the "5% of all homes passed" suggests a number. Cable is expected to pass some 63,000,000 US households by 1990. **Five percent** of 63M would be **3,150,000 TVRO homes** within cabled areas by 1990. Malarkey-Taylor earlier suggested that for each home in a cabled area, there would be **1.6 TVRO homes outside of cabled areas**. That leads to a total of 'in cable areas' (3,150,000) and 'outside of cabled areas' (5,040,000), or a Malarkey-Taylor estimate of **8,154,000 US homes** equipped with TVRO **by the end of 1990**. With an additional 6,404,000 TVROs to be sold during 1986, 87, 88, 89 and 90. And if cable anticipates capturing 59% of these 8.154M homes, that leaves 3,343,140 for the 'traditional dealers' to sell and install. If you like numbers, you can project that **3,500 retail dealers** spread nationwide would average **15.92 terminals each per month** for the **60 months** starting January 1986 **with cable**, or if Malarkey-Taylor projections are correct, **38.82 terminals each**, per month, **withOUT** cable's intervention into the TVRO business.

- 7) The estimates of net operating income accruing to operators and programmers from scrambling are



based on three average revenue figures:

High estimate:	\$26.00 per TVRO household in 1986
Medium estimate:	\$21.00 per TVRO household in 1986
Low estimate:	\$16.00 per TVRO household in 1986

- 8) Decoders for each scrambled service will cost cable operators \$500.00.
- 9) A \$100,000 access fee for use of the central host computer facility will be charged each program-

mer, with 50% of charges to basic programmers to be paid by cable operators.

- 10) Programmers' annual administrative costs for the central computer facility are estimated at \$1,000,000.
- 11) **\$200,000 per programmer** is the upper estimate of expenditures required for scrambling at the uplink, i.e. an in-house control computer and a scrambling sub-system.
- 12) An inflation factor of 5% per year is applied to all revenue and expense projections. The discount rate used for present value calculations is 16%.

## M/A-Com's BUNKER 'Talks Back'/ (Part Two)

### PART Two

**James F. Bunker** is Senior vice President for M/A-Com, a 3/4 billion dollar (1984 sales report) electronics firm with headquarters in Burlington, Massachusetts. Bunker has been appointed as 'in charge' at M/A-Com to bring together the many, diverse elements in the grand plan to scramble 20 or more cable television program services now carried on satellite.

In CSD for July 1st, we began an in-depth interview with Bunker which runs concurrent with a video play of the same interview beginning this Thursday (July 18th) on BORESIGHT (1). In our July 1st issue, Bunker reported that because of contractual agreements with HBO (and Showtime), his firm was required to make available home style descramblers 'in an orderly fashion' before the leading edge cable programmers began their scrambling full-time. Bunker and M/A-Com are walking a delicately suspended tightrope. On one hand, they 'won' the contract from HBO to create and supply uplink scramblers and downlink descramblers to the (HBO) cable affiliates. This makes the firm 'the guys in the black hats' to many in the TVRO industry. And anything which the firm does in the scrambling area is bound to be reflected in the sales of their TVRO products.

**M/A-Com has walked both sides of the street previously.** Years ago, when the first police/highway patrol radar equipment was being created and sold, it was this firm that built the first component parts that made police radar possible. Shortly thereafter, it was the **same firm** that brought out component parts to create the 'radar detector' industry. As



**Dana W. Atchley, Jr.**, Chairman of the Board Emeritus would observe "We are in the component business and it is an electronic fact of life that each new breakthrough in component parts creates a parallel breakthrough for marketing people. Only in military component parts is there a 'lock' on technology in favor of a single type of customer."

### IF It Does Not Fly?

TVRO industry reaction to the scrambling plan advanced by the cable programmers has been largely negative. As originally conceived, there would be a relatively lengthy 'phasing in period' during which first one and then another cable satellite programming channel would scramble. HBO and Cinemax would be first, followed perhaps early in 1986 by Showtime and then at some unspecified point later, additional services would scramble. Then late in May the cable industry began to toss around a plan which would create a 'National Authorization Center' with as many as 20 cable service programmers all scrambling within a relatively narrow 'time-frame' (see CSD/2, June 15th). We asked Bunker to comment what might happen if the initial scrambling by HBO and others met severe sales resistance from the TVRO world. 'Suppose' we suggested 'it simply does not fly; people do not stand in line to take the scrambled services. What happens then?'

**"If HBO was the only programmer to offer a scrambled service** (with affiliate Cinemax), M/A-Com would have to wind down our production ramp-up very quickly. However, we believe and are committed to the plan that **many** of the programmers will scramble and we are advancing based upon that assumption."

HBO has their uplink scrambling system essentially in place, and the downlink descramblers have been delivered to all authorized CATV affiliates of HBO and Cinemax. In theory,

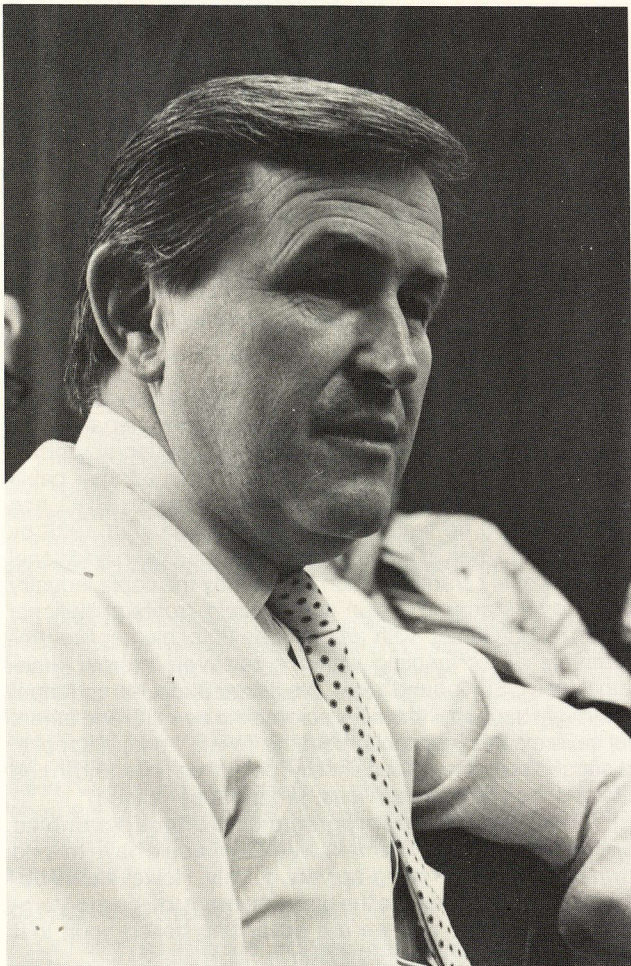
1/ BORESIGHT airs Thursdays at 9 PM eastern on transponder 20, Satcom F4.



HBO could move from part-time scrambling to full-time scrambling at any time. However, HBO has stated, repeatedly, that they will not throw the switches to full-time scrambling **until** there are 'adequate home TVRO descramblers' in the field (or sales pipeline), and concurrent with that, HBO has begun to market their service to the home TVRO viewers. All of this remains very nebulous and we wondered if Bunker and M/A-Com could give us any insight on when HBO might, in fact, throw the switch to full-time scrambling.

**"We have released the initial quantity of parts and circuit boards to production (at the M/A-Com Puerto Rico facility). We expect to have small quantities of home style descramblers ready for delivery to (TVRO and other) distributors in late summer or early fall. Now, when I think in terms of quantity delivery of descramblers, I believe we are in late 1985 before HBO could start marketing their service across the country. So the date-certain time is towards the end of 1985."**

Given the not-date-certain timing of the exercise, and the probability that HBO (plus Cinemax), standing alone in a scrambled format, will not attract a sizeable audience of TVRO users, at what point does a traditional distributor of TVRO products begin to become seriously interested in handling the M/A-Com descrambler? It is the oft-observed 'chicken and



M/A-Com's BUNKER during CSD/BORESIGHT interview in Burlington.

egg' scenario; **M/A-Com** is reluctant to start a big production on home style descramblers until they feel there will be a market for them. **HBO** is not ready to start scrambling, on their own, full-time until there are descramblers available in the marketplace. In fact, they would rather sit it out **and wait until** they are joined by another dozen or so scrambled channels since even their most optimistic marketing projections suggest that they will find a very 'thin' market for their service if nobody else is scrambled. **'So why,'** we asked Bunker, 'would any distributor of TVRO products be placing an order for TVRO descramblers **at this point** in time?'

**"To those dealers and distributors** who order now, they will obviously be first in the marketplace to understand the product, to be exposed to the operational characteristics, the servicing requirements and so on. **But I really don't expect large orders for the descrambler product** before late summer; not until we have more programmers announcing their plans to scramble. And that is why our own production ramp-up for the product is really centered around late '85 because we think that is when it will be realistic to start heavy production. This is a function of programmers making a commitment to scrambling and the availability of the (National Authorization Center) control network to run the full network as well."

The suggested retail price for the VC2000E (home style, stand-alone) descrambler is **\$395**. M/A-Com, at one point last spring, stated that it would 'widely advertise that price' to insure that the consumers were fully aware of the price. However, the stand-alone unit **will cost the distributor \$325 each** (plus possible shipping charges from Puerto Rico). If the distributor is going to move the product through a dealer, and then to the consumer, it becomes a very low mark-up piece of equipment; barely 10% for the distributor and another 10% for the dealer. We asked Bunker how this thin margin could be justified by those who are being asked to commit to significant quantities of the product 'on good faith.'

**"I think for all of us,** the dealer, the distributor and the original equipment supplier, the profits **are** very slim or narrow; perhaps 10% each for the equipment supplier, the distributor and the dealer. However, we believe that introduction of the scrambled CBD service will create a (considerable) new market in the upgrading of existing terminal systems. We expect there to be a significant market for upgraded receivers (i.e. when an existing TVRO consumer wishes to add the descrambler, M/A-Com forecasts that a large percentage of those people will **also** upgrade to a newer receiver with recently offered features such as stereo and full remote control). Additionally, when the CBD system is finally in place, it will take that uncertainty of scrambling out of the marketplace and lead us to the next step which will be the receiver with the built-in descrambler; our IRD system. We think this will all help to make a much stronger TVRO industry with increased retail sales for every dealer."

The 'chicken and egg' problem keeps coming back as the core of the 'timing problem.' **Not even HBO believes** that they can scramble **on their own** and have a viable home TVRO business. We felt that M/A-Com had studied this problem and that they probably had some thoughts on where a 'threshold' might be reached which would trigger serious interest in home descramblers by the TVRO marketplace. Bunker offered what he clearly labeled as an opinion on where that 'threshold point' of scrambling might be.

**"There certainly has to be some amount of programming available,** only through a descrambler, to attract the attention of the home TVRO viewer. I think that if you have



one or two of the super stations scrambled, a Disney, an ESPN, along with the premium programmers including HBO and Showtime (plus Cinemax and The Movie Channel), **that will trigger** all of the distribution channels to move forward. I would expect at that time we will see a flood of orders. In the meantime, we are pushing ahead with the manufacture of cable (VC2C) descramblers and the uplink (scrambling) equipment for that eventuality. The manufacture of cable headend units has to be moving ahead on a parallel course with the development and start-up production of the consumer units; we have to anticipate the announcement by more services that they will scramble and be prepared to support them with the timely delivery of cable headend descramblers. However, **until all of this does come together**, (we feel) there won't be a large and viable business of selling scrambled programming to TVRO owners."

If this is an accurate assessment of 'when' there will be widespread scrambling, and 'how' it will trigger consumer purchases of descramblers, why then would HBO be practicing ever-increasing scrambling of their four feeds? How does Bunker view what HBO has done to date?

"I believe that what HBO and M/A-Com have done, good or bad depending upon what you read or hear, is that we have taken the first step in getting the scrambled, subscription service in effect in America. The others will follow but it is going to take more programmers announcing, with the right prices and the right equipment, before this all comes together."

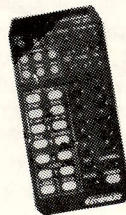
#### HOW Scrambling Is Impacting TVRO

Some have pointed a finger of blame at the uncertainty surrounding scrambling as a major cause in the 'OEM/distributor' shake-out that has been with us this year. A number of product lines (Intersat, Earth Terminals, for example) have left the marketplace. Other product lines are struggling under 'Chapter 11 re-organization' (Automation Techniques, Locom, for example) to stay afloat. Does Bunker or M/A-Com attribute **any** of the business problems faced by OEMs and distributors to the scrambling scenario now infecting the industry?

"As a business fellow, I am very sorry to see this shake-out. It has been widely written about, by CSD for example, but the truth here is much more basic than a fear of scrambling. **There have been too many vendors in the marketplace.** When you have as many vendors as we have had, serving a market this small, there **must be** instability. As prices have gone down and features have gone up, there has obviously been a profit squeeze. And it is not only the small companies that have felt this; M/A-Com, which is relatively speaking a larger company, has had to stop the manufacture of low noise amplifiers and block downconverters for the industry because the pricing of these products has dropped so dramatically from the overseas suppliers."

Stopping production is a business decision. But it can be an **expensive** business decision.

"**There sure are losses here.** We are in business to make money. But the pricing got so low that it was no longer viable for us to continue in the business. I have seen recently that other suppliers, building the same type of equipment domestically, have reported a loss in dollars from ongoing operations. I can't read inside corporate pricing structures but it is not obvious to me that **any** American manufacturers are enjoying significant profit margins for LNAs and block downconverters as stiffer and stiffer pricing competition has come from overseas."



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If the LNAs and block downconverters are now difficult to build and sell, **profitably**, by a domestic manufacturer, is it not possible that offshore producers are also facing exceptionally low profit structures as well with the same units?

"My opinion, as an ex-microwave engineer, is that if they are enjoying **any profits at all**, the profits on LNAs and block downconverters are very low; **regardless of where they are being built**. There is a fundamental bill of materials which goes into any product. This bill of materials is no different offshore than it is onshore.

"What we have seen here is the entry into the marketplace by large, established consumer type manufacturers offshore. They were geared up to participate in the early Ku band markets, especially in Japan. With the failure of the Japanese three channel Ku band satellite this past spring, these consumer manufacturers have been forced to shift their production lines from Ku band equipment to C band equipment. They have done this by bringing in very low pricing and reduced profit margins in anticipation of a significant and much bigger marketplace building here."

We hear the comment, perhaps the fear, that some 'marketing strategies' or business plans may actually include a period of sales time where each unit shipped is shipped or sold **'at a loss'**; that a firm will attempt to 'buy' a portion or share of a market by bringing in low prices in anticipation that as the volume increases, their cost per unit will catch up with the early selling price and that **eventually they will be profitable**. Does M/A-Com feel that this marketing technique is being employed in the TVRO business?

"I am sure there are companies out there following that strategy. If you follow the Boston Consulting Group's theory of market share, starting off at low pricing and gaining market share through the learning curve of start-up production, that is a strategy or theory that is prevalent in consumer electronics. And I think this process will accelerate the shake-out during the balance of '85 and through 1986. M/A-Com tries **not to follow** that strategy because when you do, it can be very costly. We are a public corporation, we have shareholders we must answer to. On the other hand, there are other corporations, some privately owned, which will follow that strategy. I would have to agree that we think **there are some now in the marketplace** who are operating in that mode."

One way that a company might 'back-stop' itself if it elected to follow the low-pricing and buying-of-market-share policy is to acquire some sort of 'subsidy' for its operations. For example, a firm with lucrative military contracts might be in a position to 'subsidize' entry into TVRO at a low pricing level with the profits from its military sales. In another example, some of the **offshore firms** operate in countries where there are direct and indirect 'government subsidies' available to allow a firm to actually lose money during a start-up phase in hopes that the low pricing will capture for the firm a significant market share, and as the firm expands production, the cost per unit will fall (based upon experience and volume) **and that eventually** there will be a profitable operation at hand. Of course as all of this happens, those firms without such a subsidy are faced with stiffer and stiffer competition and they may be forced to drop out of the marketplace because they are unable to compete with the subsidized firms. Bunker on that sort of 'subsidy' in the TVRO marketplace.

"I am almost 'too American' to deal with that subject! In those countries where this happens, this is simply their way of doing business. I think we have experienced this in the low noise amplifier (and BDC) product line. I think it is realistic to



expect receiver pricing will (also) decrease in the coming months and years. I personally believe the C-band electronics (LNA or LNB, receivers) will be available with features and pricing by 1986 as if it were Ku band. The only differential I foresee between the C and Ku band service packages will be the antennas (C band being larger) and perhaps the addition of the antenna actuators and controllers for the C band packages (which are not presently envisioned for the single-bird, dedicated Ku band packages). **And in fact some would argue that we are already there.** The Galaxy 1 system packages, for dedicated reception of just the Galaxy 1 (24) transponders even today approaches the retail pricing originally estimated for Ku band single bird reception. Which is another way of saying that 'DBS' is not a frequency sensitive service. It could just as easily be a C band service as a Ku band service. We have felt that way for some time now."

Finally, the question of which firms will 'control' the distribution of descramblers when they finally do become available. M/A-Com admits that there will be a 'slow and orderly ramp up' of production for the stand-alone units. With limited supply, there is some concern that a single supplier might grab all of the units initially, thereby dominating the market to the disadvantage of other suppliers and distributors. Bunker on this possibility.

"We will allocate the initial supply of descramblers as evenly and fairly as possible. The last thing we want or the industry wants or needs is for one or a couple of suppliers to control the distribution of the descramblers.

"We don't want a distributor, or cable programmer or manufacturer to buy up the production thereby inhibiting the wide distribution of the units. We will do the same thing with the modules, the IRD units. By starting our acceptance of orders evenly, to everyone at the same time, we will allocate units and then build the factory ramp up as a function of the backlog of orders that we receive. **What we must be very careful of** is that somebody does not buy a position in the line with a large

order which is then cancelled several months later as the delivery date comes closer. One way we can control this is to require **an up front downpayment** of earnest or 'honesty' money to prove to us that the firm placing the order sincerely wants to take the units which will be scheduled for them. That will be one way to try to keep others from hogging or absorbing our manufacturing capacity in the start-up phase of this program."

#### BOTTOM Line?

It is clear that M/A-Com, at least, has the resolve and the resources to fulfill their part of the master contract with HBO and Showtime; and, that they are preparing for what they believe will be a major swing to scrambled program delivery by as many as 20 of the present satellite delivered programmers.

However, the satellite programmers must act, must set specific target dates to be scrambled and must begin the process of installing their own uplink scramblers and getting their cable affiliates equipped with VC2C (cable form) descramblers **before the TVRO industry accepts** that any or all of this is 'really happening.' Until that day, until a 'threshold of reality' is apparent to the TVRO industry, it is very unlikely that there will be a significant market for home-style descramblers no matter who attempts to market them.

It also appears to us that while M/A-Com would like and prefer to see TVRO receiver OEMs making hard plans **now** to shift to the 'IRD' receiver design (see CSD for May 01, May 15 and June 01) rather than expecting the marketplace to adapt to the stand alone (VC2000E) descrambler unit, **this step is even further away.** We therefore envision a period of a year or even two, after it becomes clear that a scrambling threshold is upon us, before we begin to see significant activity in the redesign of TVRO receivers, around the M/A-Com IRD package. This simply means that for 1985, 1986 and perhaps well into 1987, the likely form of a descrambler will be the **stand alone** VC2000E unit.

## TULSA SHOW REPORT

#### TIME To Speak Out?

The recently concluded STTI/SPACE (or SPACE/STTI if you wish to apportion 'equal blame') Tulsa trade show demonstrated that too much of a good thing can be a bad thing. Too many shows, too close together, ultimately will (and do) work to the detriment of a young, struggling industry. In a nutshell, too many shows, too close together, result in **too few people attending.** And a show rises or falls on its final attendance figures.



Various 'official' statements from SPACE and STTI fixed the number of attendees at around 4,500. To that, we are told, one should add an 'additional 3,000 for exhibitor, booth, press and other personnel.' Those numbers do not **sound** bad, even when compared to the 15,000 'official count' for the spring Las Vegas gathering. However, other much smaller numbers suggest the degree of difficulty attached to an accurate 'count' of attendees. For example, the opening session featuring the heavyweights (Taylor, Brown, Hewitt et al) drew fewer than



300. The show-annual 'banquet,' a bar-b-que in deference to the Tulsa location, had fewer than 250 'tickets' sold just hours ahead of the event. And there were never significant 'lines' in front of the registration booths; not even on opening morning.

Writing in the 'deScrambler,' a monthly newsletter issued by the people at National Satellite Communications (NSC) for their dealer affiliates, Baringer suggested:

**"Is this a business or is it a 'show' (business)? Are we barkers at a carnival, or businessmen and women? If we are to be constantly involved in the-business-of-shows, when do we find time to run our satellite business?"**

Yet in spite of light attendance (approximately 200 exhibit booth spaces were also empty; the show sponsors had hoped for 700) the show did provide interesting business opportunities for those who did attend. The choice of Tulsa was not as abstract as it may have seemed; a significant number of established dealers attended their **first show** here; several we talked with have been selling TVRO systems for three years and longer but have never previously attended a trade show. They may have been the winners since the majority of the booths experienced light enough traffic that these first-timers were able to get all of the time they needed or wanted with the booth personnel. And with several hundred first-time-established dealers on hand, many of the exhibitors report

#### AND A DEALER RESPONSE:

How did the Tulsa show impress those who have been in the business for several years, but who have never attended an industry trade show previously? This letter suggests at least one dealer's impressions.

"With great anticipation I attended my first SPACE/STTI show on Saturday June 22nd. Entering the main air terminal at Tulsa, I expected someone to supply information about this big show. Two hand penciled poster boards greeted me. I asked the people working at the rental car service about shuttles to the 'SPACE Show.' They had not heard of SPACE but the faithful cabbie knew where to go. Entering the exhibit hall after paying \$24 for an additional exhibitor's badge, I could not help but notice the vacant booth space; especially those with unpacked cartons, at the far end of the hall.

"I did enjoy the show and was quite surprised at how many exhibitors were apparently anticipating a big turn-out. I say this because Sunday many were passing out basketballs, hats, literature and packets to **other vendors** so they would not have to take them home themselves. What a shame all of those promotional items did not reach their intended recipients; dealers.

"A common comment heard on the floor was the extreme entrance fee to dealers. There was a feeling that the dealers were being penalized with such a cost. Many of the exhibitors I talked to had comments about the show, such as 'Why the high entrance charge to dealers?', 'Where is the big turn out?' or 'Why do they have seminars during the day when we are here in our booths to see the dealers???'.

In closing, the June issue of **Coop's Satellite Digest** reviewed the subject of the cable TV industry and their anger towards TVRO. When I was in Tulsa, I watched a local television newscast where they stated that our industry's sales were down and they came to the on-the-air conclusions that with scrambling coming, that would **eliminate** use of TVRO dishes. We in our industry need all of the positive support we can muster. Can you imagine the impact of **that news report** on a first-time show goer who **first heard** the negative comments on the exhibit hall floor and **then heard** the local TV newscast say our industry was finished??? I hope we can all learn from the failings of the Tulsa show and go on to gain more public respect and public support."

**Ronald B. Ramon**  
STAM Manufacturing Co.  
Box 319  
Watseka, Illinois 60970



**JANEIL'S BOB LULY explains the terrestrial interference trapping circuit and the quartz locking system for the Janeil BCR 2000 receiver.**

writing order totals approaching the \$1M mark. Not too shabby.

**Automation Techniques**, filing for re-organization under chapter 11 in the spring, was back 'at the front door' with a hot air balloon announcing that they were 'stronger than ever.' Inside they proved it by lining up various television personalities and beauty contest winners to adorn their booth with the allure of the big time. **AT** may well 'arise from the ashes' and if so, Tulsa was their coming out party.

The number of new, imported, receivers continued to rise and if 'copying receivers' was not the most popular way to 'enter our business' in a hurry, copying antennas was; one wag reported he counted 28 different 'clones' of the popular Raydx antenna line in the antenna lot.

**28** was a number that repeated itself at least one other time; trade journalists with 'time on their hands' counted the number of separate publications on display for handout at the show. Yup, 28.

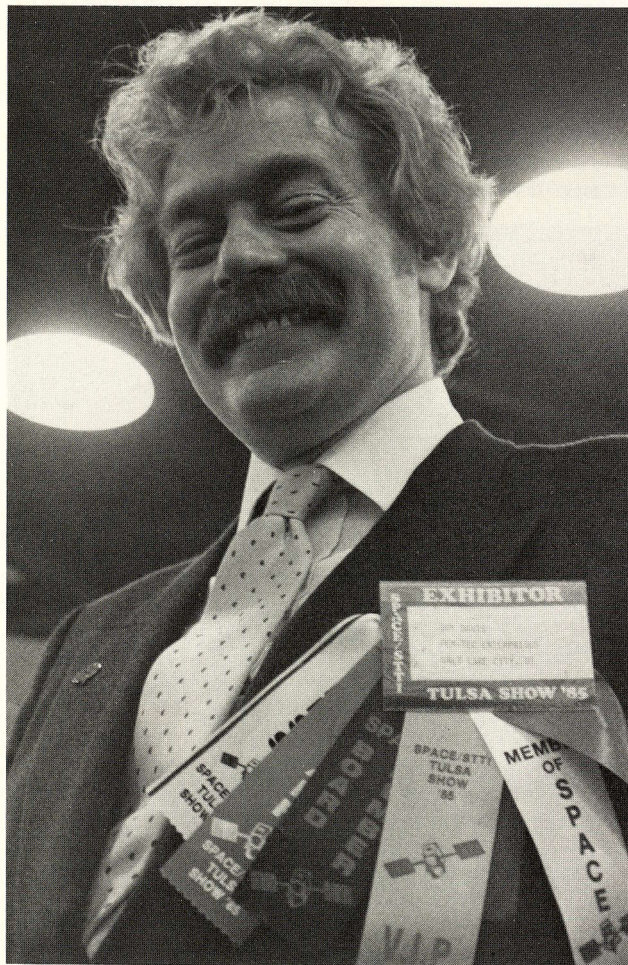
SPACE reaction to recent cable industry maneuvers in the scrambling 'war' highlighted the first few days of the session. M/A-Com had issued an invitation to the SPACE 'Executive Committee' to tour their North Carolina facility and to witness a demonstration of the M/A-Com Videocipher system. SPACE Counsel Brown cautioned the board members against accept-



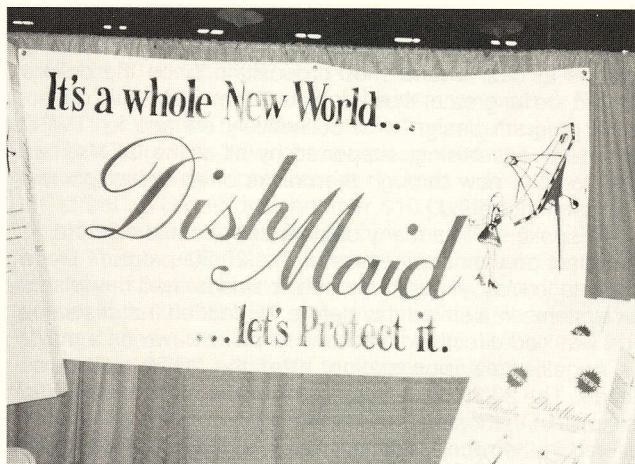
ing the invitation, concerned that the cable industry might read the visit as a sign of 'weakness' on the part of the TVRO industry. An alternate plan, to send members of the industry's **trade press** as a substitute for the full Executive Committee, received some attention.

Brown reported first to the Board of Directors and then to the membership the status of the cable attack. CATA, the Community Antenna Television Association, had concluded their annual convention and trade show only days prior to the Tulsa gathering and there Brown had spoken on a panel dealing with cable's entry into the TVRO business. His report found CATA cable operators basically **unfriendly** and basically **uninterested** in any type of 'accommodation' with TVRO.

On the exhibit hall floor, we bumped into four Oklahoma **cable operators** who had come to the show as potential TVRO dealers. One, from western Oklahoma, had lost 44 of his subscribers this year (out of a total cable home count of 525) to TVRO ownership. He was your basic angry person and not quite certain that becoming a TVRO dealer was going to solve his problem. Another, from eastern Oklahoma, had lost fewer than five subscribers to TVRO (out of a cable universe of nearly 2,500) and was looking upon TVRO as a way to 'extend



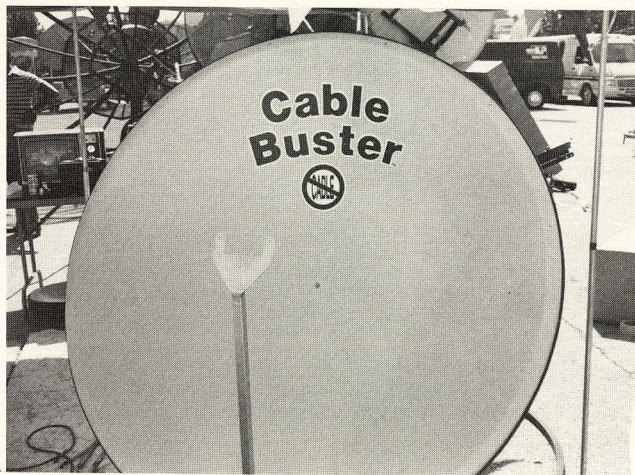
**BADGE COLLECTOR/** when a show gets 'slow enough,' people look for ways to liven things up. MTI's Guy Davis started a 'badge collection' and wound up with 8 different badges, all intended for different show-going categories, in Tulsa.



**CLEANER DISHES/** one of the more novel products on display was 'Dish Maid,' a dish cleaning system that perhaps originated with products originally sold to the marine industry. A long pole, with a brush on the end, is connected to a garden hose and from the ground the system owner can 'clean' his or her dish whenever it gets dirty. Clean dishes make cleaner pictures . . .

his cable lines' into rural areas where the population was too thin to support traditional cable service. The bottom line was that you could find 'examples' to support almost any 'position' you wished to take in the cable versus TVRO war.

The SPACE Dealer Board took one hard nosed view which is guaranteed not to delight the 28 publications in the field; they ended up urging original equipment manufacturers to shave their **trade publication advertising** budgets in favor of putting the same dollars into consumer publications and 'TVRO awareness advertising.' The suggestion continued that TVRO **distributors** were the 'natural advertisers' of product **for the trade publications** while the OEMs, the 'motion' went, were more suited to the consumer trade. Following on the heels of the highly helpful ABC '20/20' report by Hugh Downs (see **CSD** for July 1, page 38), the dealer group was quick to ask for OEM help in getting more such pieces 'placed' in the national media.



**UNFORTUNATE CHOICE/** 'Cable Buster' antenna attracted plenty of the wrong kind of attention. Cable 'spies' on hand were busy snapping photographs which will undoubtedly appear in cable trade publications in coming months.

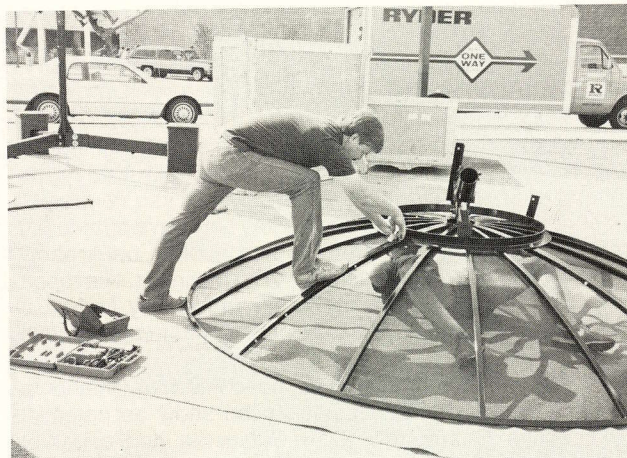


(The reality is, of course, that individual OEM efforts to advertise in consumer press to attract consumers into TVRO stores is at best a 'one-shot' proposition since the dollars required are far greater than even our larger OEMs can generate. A program designed to collectively engage in 'TVRO awareness' advertising, supported by all of the OEMs, has been 'lost' for now through the cracks of an industry sales re-adjustment period.)

We spoke with as many dealers as we could concerning the impact on their businesses of the '20/20' program piece aired late in May. A California dealer said he had never sold four systems in a single day before; but added that his sales spurt was tied directly to a 'follow up' piece down on a major Los Angeles television station, **after** the 20/20 piece was telecast. The 20/20 piece triggered the local station into doing their own 'TVRO story' and he happened to be the dealer featured in the report. Wichita, Kansas dealer **Jeff Manion**, sued a year ago by his local cable system, had no increase in traffic after 20/20. We wondered why.

**"The local (ABC) affiliate did not carry 20/20 that evening; instead, they chose to telecast a regional professional baseball game."** In effect, the station shut the TVRO message out of the Wichita market. Manion was suspicious that this was no accident.

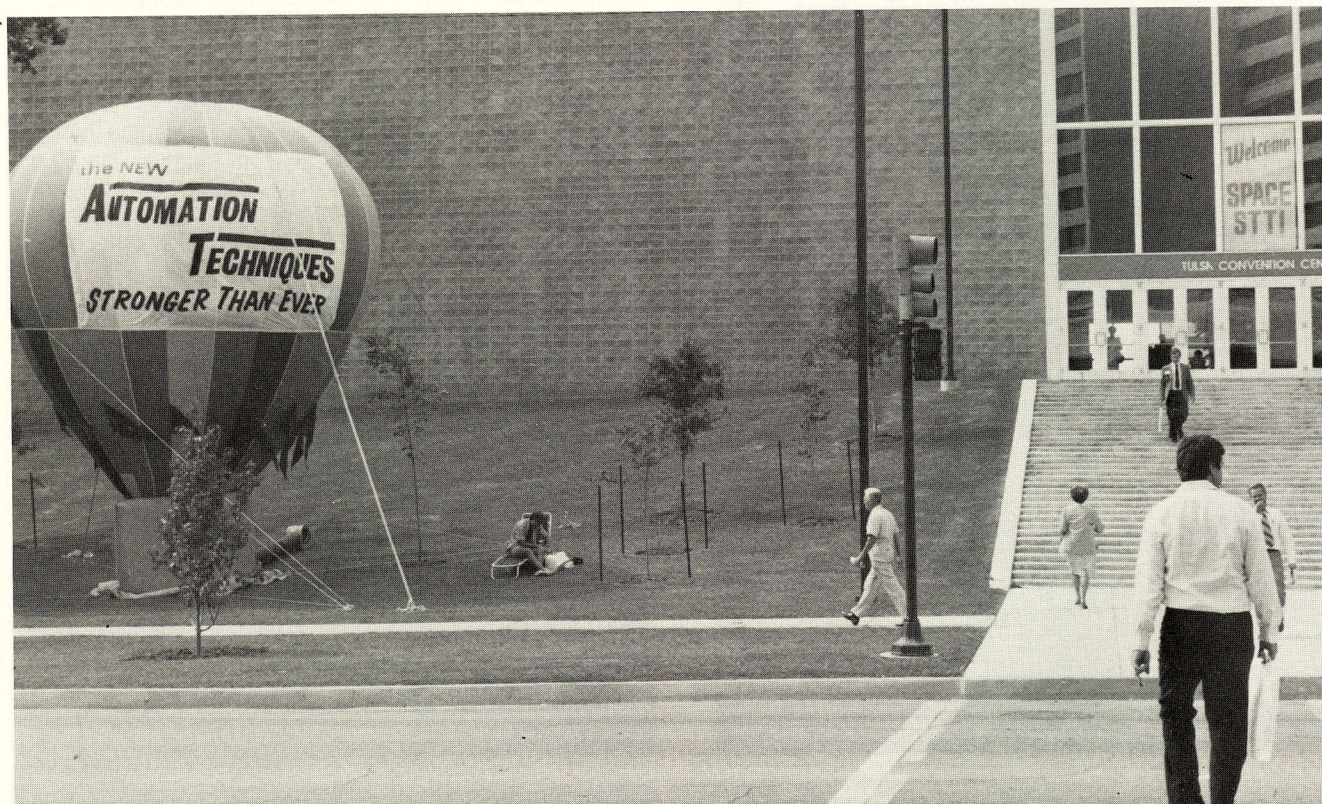
Equipment trends. **Janeil's** full equipment line, from antenna and actuator to electronics, had both a new look and a new look of improved performance. The BCR 2000, apparently the first receiver to enter the marketplace with a built-in 'TI' suppression system, was especially intriguing. The TI system is a pair of traps, at 60 and 80 MHz, wired into a switch so the user can switch in and switch out. A demonstration of the



**CAPTIVE AUDIENCE/** antenna lot mesh dish assembler worked inside of this screen antenna.

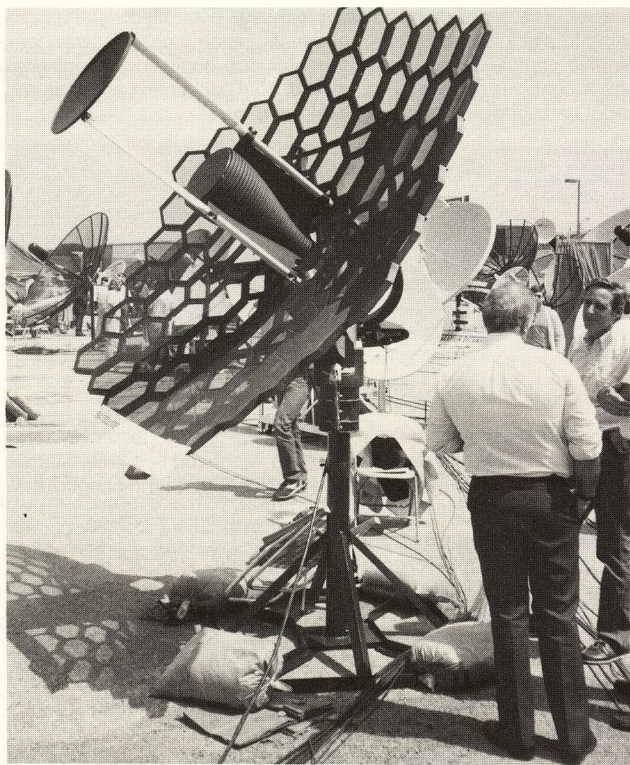
receiver's performance with moderate amounts of TI was indeed impressive and we heard several other OEMs talking about adding a similar circuit to their own receivers. Probably by Nashville.

A new **John Ramsey** (Ramsey Electronics/Sat-Tec) receiver, promised for nearly one year now, finally appeared 'on stage' in Tulsa. This receiver, like the newer Janeil units, uses the 400/900 MHz 'region' for its block IF lending itself to multiple-receiver hook-ups using commonly available UHF television distribution equipment. The marketing 'direction'



**ALIVE AND WELL/** Automation Techniques greeted dealers to the Tulsa show with a pungent message; "(We are) Stronger than Ever."





STS GAMBLE/ unorthodox cassegrain design antenna system offered by STS attracted interest but most dealers were skeptical of the installation challenges and performance.

taken for the new Ramsey receiver is of special interest. A total of 3,000 are available per month. These have been apportioned to 30 distributors, each of which will have an even 100 to sell. By spreading the available inventory around, Ramsey hopes that they will be able to head off 'price cutting' on the unit and this would be a benefit to dealers who find themselves bidding against their own receiver brands with a dealer 'down the street' willing to drop another \$10 or \$20.

USS/Maspro also had their new top-of-the-line SR-3 on hand. This receiver has on screen graphics, set (to memory) and forget video and audio tuning and skew, individual transponder lock out, full UHF remote control and sleek Japanese styling. Delivery on the new units will begin at a low level at the end of this month and build to volume by Nashville.

#### DEALER Input

One of the more interesting new concepts attempted at Tulsa came out of the SPACE dealer board. After the highly successful 'Dealer Scrambling Rally' in Las Vegas, the dealer board decided to pass over scrambling as a major issue and to head directly into the never-never land of 'Dealer Relations with OEMs and Distributors.' A first-evening meeting allowed dealers on stage to pose difficult questions to OEMs and distributors who were seated in the first three rows of the meeting room. Dealers in the audience were then allowed to ask additional questions from the floor. The questions asked were tough; 'Why do some distributors continue to **sell directly** to consumers,' 'Why must we (the dealer) pay **return freight** charges on a unit that is DOA (dead on arrival),' 'Why can't we get **more** in-store promotional **literature**' and on and on. A wide variety of OEMs and distributors willingly participated and the dealer board plans another, expanded session in Nashville. So if you are a dealer, start making your own list of

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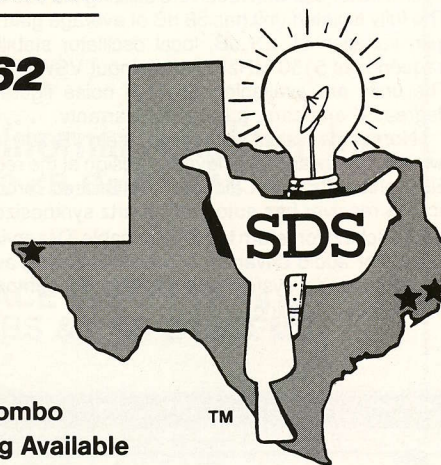
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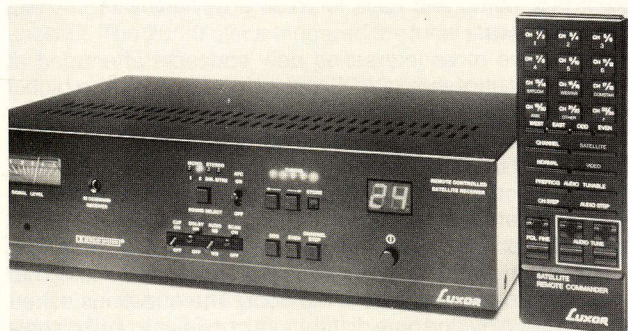
  
International Satellite  
Distributor Association



questions now.

#### NEW PRODUCTS/ continues from page 6

Washington 98009) has released additional specifications for their Mark 2 dual band (C and Ku) compatible TVRO receiver system. The package will accept a BDC input between 950 and 1750 MHz to accommodate not only the North American 500 MHz wide TVRO bands at 3.7-4.2 and 11.7 to 12.2 GHz, but to also handle the European bands which stretch out over a 750 MHz wide spectrum. Separate feeds and LNBs covering the two bands, or two separate antennas, each equipped with its own LNB can be used to feed the Mark 2 wide IF receiver system.

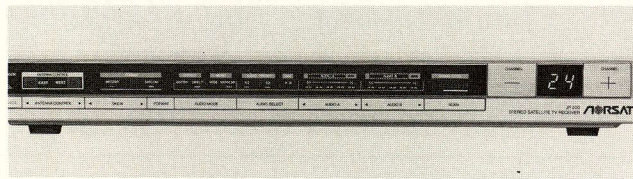


#### MARK 2 is C and Ku Band Ready

**Microdyne Corporation** (P.O. Box 7213, Ocala, Florida 32672; 904/687-4633) has a data sheet available explaining why their model 1100 HDR video receiver is the most 'flexible' satellite video receiver presently available in the marketplace. The BDC designed product provides front panel selection of 48 different pre-set transponder frequency configurations plus it allows the user to set in an additional 48 channels for a total of 96 separate pre-set transponder allocations. The receiver is available with optional half and full transponder filters and the IF range is 950 to 1450 MHz for BDC units receiving signals in any C or K band frequency assignment.

**NORSAT International** (302-12886 78th Avenue, Surrey, British Columbia, Canada V3W 8E7; 800/663-8733 in USA and 604/591-3334 in Canada) has announced a full line of highly stable low noise LNB units for use with receivers utilizing the 950 to 1450 MHz IF band. The fully isolated unit has 58 dB of average gain (at 20 degrees C), a gain variation of  $\pm 3$  dB, local oscillator stability of  $\pm 2$  MHz (LO frequency of 5150 MHz), and an input VSWR of 1.3 to 1 maximum. The units are available with LNB noise figures of 80 through 95 degrees K and carry a two-year warranty.

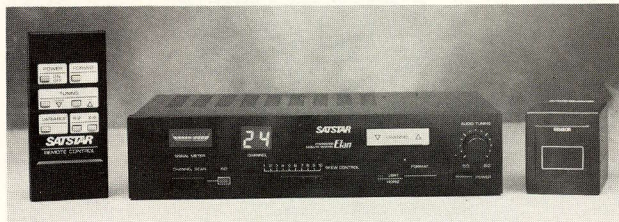
Norsat has also introduced their JR-200 receiver which was awarded an award for innovative design at the recent CES/Consumer Electronics Show in Chicago. The infrared remote controlled, direct access receiver has automatic quartz synthesized tuning, automatic A-B switching for return to off-air or cable TV service, automatic tuning search for audio driven by a microprocessor, audio plus video and satellite memory system and it is 'decoder compatible' for the scrambled services coming.



#### NORSAT Wins Styling Award with JR-200

**SatStar Satellite Products** (A Unit of Millimeter Wave Technology, 1395 Marietta Parkway, Building 700, Marietta, Georgia 30067; 404/425-9385) has announced their new 'Elan' synthesized TVRO

receiver. The receiver has microprocessor controlled synthesized tuning to eliminate fine tuning, automatic polarity changeover, consecutive channel scanning, and continuous audio tuning. Infrared remote control is optional. The unit is double conversion and features no-pot-setting for the installing dealer set-up.



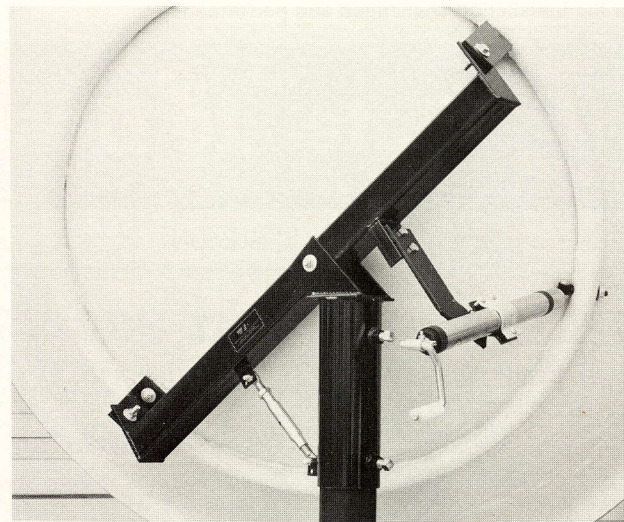
#### SatStar Has 'Moore' Behind It

SatStar/Millimeter have also announced the engagement of **Jerry K. Moore** as Vice President of Marketing. Moore comes to SatStar via Gould Dexcel and Amplica where he was instrumental in bringing new TVRO products to market for both firms.

#### ANTENNA Related Developments

**Aztech Antenna Corporation** (Route 150, Box 21, West Sand Lake, New York 12196; 800/892-8999 or 518/674-2864 within New York) has a new five foot, spun aluminum Galaxy-1 dish with Az-El (PVC) mount which they say sets up in less than five minutes time. The fish has an f/D of .375 and a claimed gain of 34 dB. Optional accessories include steel mount and a polar mount.

**Beach Craft Electronics** (701 Collier Street, Hannibal, Missouri 63401; 314/221-4146) has a new oilite bearing movement mount designed for easy declination settings and installation. The mount is available for a wide variety of antennas and is now standard on all Beach Craft 6, 8, 9 and 10 foot fiberglass antennas.



#### Beach Craft Makes It Easy

**Birdview Satellite Communications, Inc.** (8500 W. 110th Street, Overland Park, Kansas 66210; 913/451-2636) ceased shipping their Spoon<sup>TM</sup> antenna because of a problem relating to the dish retaining its finish during shipping. Dish surfaces were arriving at dealers with imperfect finishes apparently caused during the shipping process. Birdview expected the halt in shipping to be temporary and shipment of the Spoon would begin again when the finish problem was corrected. Birdview began shipping the antenna to dealers late in May.

**ERL/Electromechanical Research Laboratories, Inc.** (624 Vincennes St., New Albany, Indiana 47150; 812/948-8484) has begun shipping their new (7.3 foot) CNC/7.3 black wiremesh TVRO antenna. The company has previously announced a 10 foot antenna. The dish



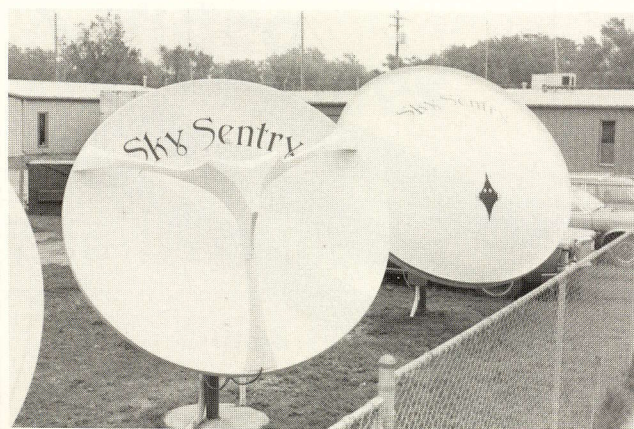
has an f/D of .375, ships via UPS, and carries a five year warranty. Another new product offered is the 'Quick Stand', an antenna assembly and site survey stand designed to travel with the dealer for simplified dish assembly or testing for TI. The Quick Stand mount is intended for dish assembly (an extender kit gives you five feet ground clearance), will handle antennas requiring pole mounts to 4.5 inches in diameter, weighs 39 pounds and folds up to transport in the trunk of a car.

**Gillaspie Communications, Inc./Geotech** (355 Sinclair Frontage Road, Milpitas, California 95035; 408/943-8800) has announced a 4.5 foot offset fed C band TVRO antenna which they claim out performs 6 foot diameter antennas with 'center feeds'. The portable antenna is designed for RV or other transportable use and has an elevation over azimuth mount.

**LUXOR North America Corporation** (600-108th Avenue N.E., Suite 539, Bellevue, Washington 98004) has introduced the Luxor Actuator Arm, now being shipped as an integral part of the firm's 9534 and 9434-02 antenna controller systems. Stroke lengths from 18 to 52 inches are available and the arm has installer-adjustable limit switches and reed type sensor switching. Operating voltage is 36 volts and the 02 model is for the Mark 2 block receiver while the 9534 is intended for the 9540/9550 TVRO receivers.

Luxor has also been displaying a 12 GHz electronics and antenna package as a part of the firm's 9570 Mark 2 satellite receiving package which has a block IF of 950-1750 MHz and is compatible with both C and Ku band satellites.

**Jim Patterson Enterprises** (111 E. Pacific, Salina, Kansas 67401; 913/827-4682) has announced their Sky Sentry line of 6, 8 and 10 foot fiberglass TVRO antennas. The antennas use RomHoglas as the 'reflective material' and are formed to an accuracy of 0.015". The feed/LNA mounting system is also constructed from fiberglass to reduce the amount of surface blockage from the feed system. The polar mount has a mechanical azimuth adjustment in addition to the normal locking bolts as well as an adjustable head that can be leveled by the installer. Oil impregnated bronze bushings give the mount-plus-antenna long term rigidity. A signal-transparent dome cover for the 10 foot antenna eliminates electronics weathering and a 3 inch lip with reflective material provides a 'TI signal shroud' to help reduce terrestrial interference.



**SKY SENTRY** fiberglass feed support (left) and shroud (right)

**RAYDX Satellite Systems, Ltd.** (9 Oak Drive, Ocala, FL 32672; 904/687-2003) is promising dealers their first look at the 'second generation' Raydx antennas **September 2nd** in Nashville. Raydx will also be revealing the 'first generation' of Raydx electronics, including a 'dream receiver' at the same time. Distributors will get a closed-session peek in advance on September 1st.

**Saginaw Steering Gear** (Division, General Motors Company; 3900 Holland Drive, Saginaw, Michigan 48605) has created a new miniature ball screw line with applications in precision products. The new ball screws have a nominal size of 0.1875 inches and ball nuts are available in stainless steel, alloy steel or epoxy. OEM pricing is avail-

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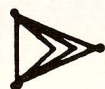
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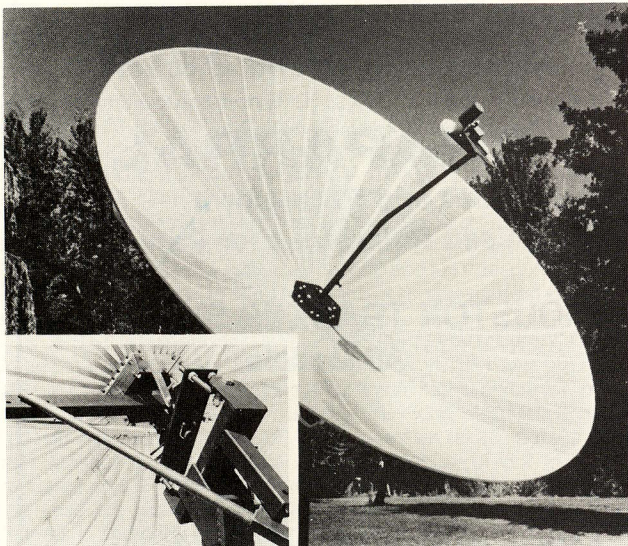
able on the HiTec 90+ units.

**SATCOM, Inc.** (623 Sagamore Parkway North, Lafayette, Indiana 47905; 317/477-7471) has introduced the Spectre one piece, spun aluminum **perforated** dish antenna. The spun design eliminates flat spots of bumps in the reflector surface, allows installations in as little as five minutes time, and includes a heavy duty circular ring type support and matching polar mount. Satcom also manufactures the Optima line of TVRO antennas.

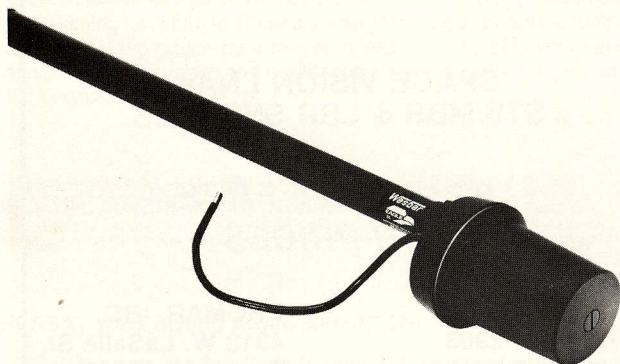
**Scientific-Atlanta, Inc.** (P.O. Box 105600, Atlanta, Georgia 30348; 404/441-4000) has released a 4 GHz (C band) and 12 GHz (Ku band) 4.5 meter antenna. Using stretch-forming techniques, the 12 piece antenna has a standard elevation over azimuth (El-Az) mount.

**Sigma Satellite Manufacturing & Sales, Inc.** (1115 Hamilton Court, Menlo Park, California 94025; 415/327-5210) has introduced three 11 foot model aluminum mesh antennas equipped with a new 'stress equalizer hub' system. The new hub is designed to reduce or eliminate shifting of antenna parts with time so that the dishes maintain their parabolic shape even after extended use in high wind areas.

**Wesbar Corporation** (4201 U.S. Highway 45 South, West Bend, Wisconsin 53095; 414/334-2381) has introduced its new Eagle II series of satellite antenna positioners. The drives feature no-end-play, 36 volt DC motor, 10 turn pot for sensing, Acme threaded drive screw, and a weatherized packaging. The cover is released with a single screw and all antenna drive adjustments are retained weather tight by replacing the cover.



SIGMA 'Stresses' Long Term parabolic shape



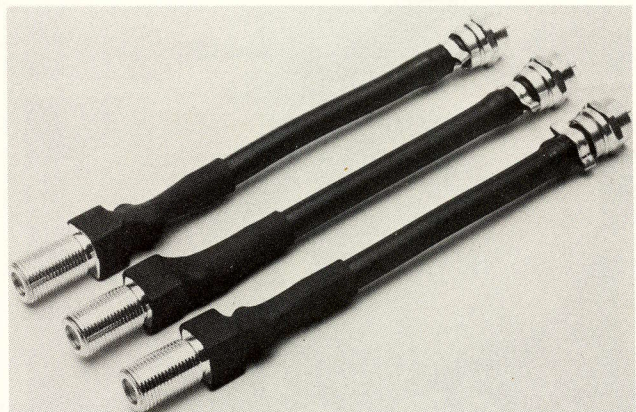
Wesbar Whips Weather

#### FIELD Reports

**ACESAT Satellite Receiver Corporation Pty. Ltd.** (856 Princes Highway, Sutherland 2232 N.S.W., Australia; [02] 521-5994) has become the first licensee of Scientific-Atlanta and Plessey Australia, Limited to create an Australian receiver equipped with the mandatory B-Mac signal descrambler. The B-Mac scrambling system has been adopted for all Australian 11/12 GHz satellite video transmissions and the first of the Aussat birds is scheduled for launch and deployment this early fall (November 1 turn on date expected). Acesat has been supplying 4 GHz TVRO receiver systems to 'outback' sites for several years and will be pioneering 12 GHz service as well.

**The Canadian Satellite Communications Association** has been formed to deal with a myriad of problems faced by Canadian dealers, distributors and equipment OEMs. The new Canadian trade association involves all three levels of the industry and is chaired by **Sam Singer** of Gensat. The new trade association sprang out of discussions begun in March at the SPACE/STTI trade show and it will focus on the following areas of activity: (1) Establish a national forum for the discussion of problems and issues facing Canadian TVRO; (2) To negotiate premium program viewing rights; (3) To develop a program to allow rental or lease or sale of premium service decoders; (4) To educate the public on TVRO; (5) To create a framework for negotiation with elected officials; (6) To assist in the development of technical and safety standards for TVRO systems; (7) To establish a system whereby Canadian manufactured products can receive (US) FCC type certification, as required; (8) To establish dealer training and certification programs; (9) Establish a forum for mediation of disputes between dealers, distributors, OEMs and consumers; (10) To create a liaison with other 'national' trade associations; (11) To make presentations to municipal bodies seeking to restrict the use of TVRO (antenna) systems. The dues structure varies from \$300 per month for manufacturers to \$50 per year for dish owning consumers.

**Conifer Corporation** (P.O. Box 1025, Burlington, Iowa 52601; 800/358-3058) has created a product designed to eliminate 'hum bars' in the video for TVRO (and other) systems. The system consists of a small length of coaxial cable with a male F on one end and a female F on the opposite end. The 'IVB' unit decouples AC/DC paths from the line insuring that any video signals carried by the jumper line are free of the annoying effects created by the simultaneous presence of 60 cycle AC or some combination of AC and DC.



Conifer's IVB Beats Hum Bars

**Fantasy Unrestricted Network** (FUN Channel; 2902 Almaden Expressway, San Jose, California 95120; 408/559-8812) reports 87% of their subscribers renew for the Westar V adult rated service. FUN is expected to select a new transponder on either F3R or Galaxy for expanded programming which will include pay per view weekend events. FUN is Oak Orion scrambled and is available through TVRO dealers to consumers.

**Microdyne Corporation** (P.O. Box 7213, Ocala, Florida 32672; 904/687-4633) will send you a recently released brochure explaining their video scrambler system. The 1100 TVL/TVK Audio/Video Scrambling system was created for video conferencing and other



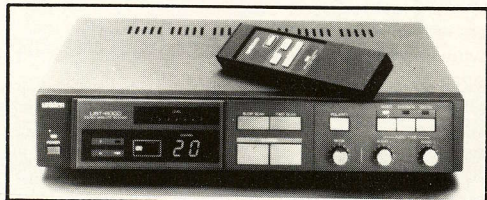
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**UST 5000** Block receiver offers LED channel display, automatic polarity control, slow and fast scan.



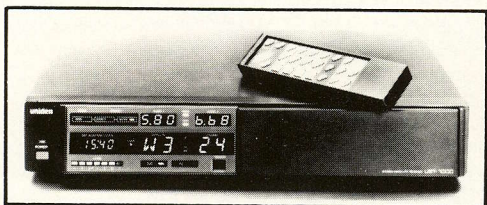
**UST 730** Antenna Positioner features built-in programmable antenna control and Opto-Interrupt circuitry.



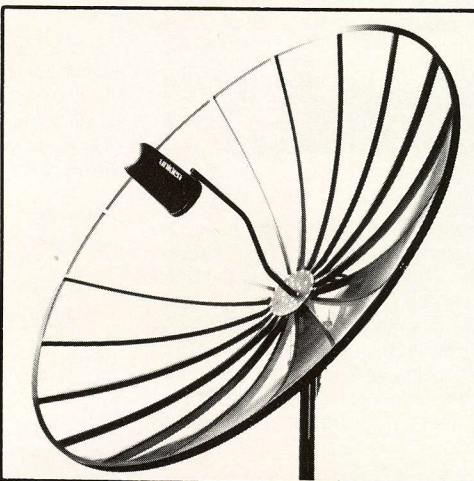
**UST 6000** Block receiver features expanded audio format and fine tuning skew adjustments.



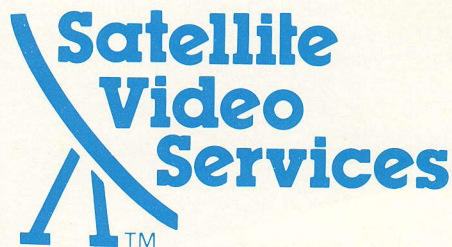
**UST 710** Antenna positioner offers compact styling, manual east west control and 3 digit LED readout.



**UST 7000** Block receiver features IR remote built-in programmable antenna control accommodating up to 81 satellite positions in memory.



**UST 110** Aluminum Mesh Antenna is designed for maximum flexibility and maintenance, easy to install and weather resistant.



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**Miralite** (4050 Chandler, Santa Ana, California 92704; 714/641-7000) has reduced the art and science of locating and evaluating terrestrial interference (TI) to a brief-case sized test set system. Called 'Clearsite', the new package involves a small hand held antenna/LNA combination that is connected to a signal processor and display unit. The entire package operates from a self-contained battery and the user merely walks the site with the package turned on to determine the levels of TI and the direction of the TI sources. Dealer price is \$795.



#### MIRALITE Sends TI Packing

The **National University Teleconferencing Network** (NUTN, Oklahoma State University, Student Union 330, Stillwater, Oklahoma 74078; 405/624-5191) will stage a 'teach-in' December 8-11. The concept is that those who would like to learn the finer points of creating a teleconference or private satellite transmission package will be able to learn by doing. The group will create a live telecast using a satellite and be broken into two learning sessions; one for the uplink portion and another for the downlink portion. Students will be able to participate in both sessions and learn by doing. Registration in advance will be required.

**Satellite Showtime** (Nova Video Productions, Box 637, Highway 14 East, Richland Center, Wisconsin 53581; 608/647-4246) has moved their transponder effective with their July 2nd program. The program is now seen on **transponder 5** at 10 PM eastern time each Tuesday, Satcom F4. Two new features slanted for regular airing include Mike Gustafson dealing with technical features and regular movie reviews ('Movie Mania') by New Yorker Ed Hulse.

**Scientific-Atlanta, Inc.** has been chosen to provide the Ted Turner CNN operation with his 11 meter uplink system designed to transmit the 24 hour CNN service into Europe starting September 15th. The new facility will transmit to an Intelsat V bird at 4 GHz and within the satellite the signal will be 'cross-strapped' or frequency translated to the 11 GHz K band for downlinking into the UK and elsewhere in Europe.

Distributors and OEMs seeking to reach **Canadian TVRO dealers** will find a new service available from **Skytrak Resources** (1842 East 11th Avenue, Vancouver, British Columbia, Canada V5N 1Z1; 604/873-8222) of interest. Skytrak has created a 'purged' mailing list of some 1,500 Canadian TVRO dealers who are actively selling TVRO system hardware and will mail literature to those dealers for you under contract. Dennis Shouldice says the list is constantly being evaluated and corrected, with each mailing.

**SPACE** has added **Tom Cramer** as a new staff member to concentrate on a variety of functions including new membership recruitment (in the dealer area) and membership communications. Cramer comes to SPACE from a trade association dealing with plumbing/heating and cooling contractors.

**Venture Development Corporation** (One Washington Street, Wellesley, Ma. 02181; 617/237-3000) has yet another survey and market study available which they report reveals that consumers for TVRO would prefer to purchase their TVRO systems from specialty stores dealing with TVRO, electronic stores, or TV/Appliance stores. The detailed study, more than 200 pages in length, sells for \$3,250.

#### SALES Reports

**Birdview Satellite Communications, Inc.** (8500 W. 110th Street, Overland, Ks. 66210; 913/451-2636) has entered into an agreement with General Electric Credit Corporation (GECC) to provide Birdview dealers with a **consumer financing program** for Birdview products. Birdview is also seeking SEC permission to sell 1.2M shares of stock presently owned by 16 members of the public and corporate officials.

**R.L. Drake Company** (P.O. Box 112, Miamisburg, Ohio 45342; 513/866-2421) reports that from day one through May of this year, the firm has shipped 270,000 TVRO receivers. Based upon a total TVRO universe of 1M systems, this accords to Drake a 25% share of market to date. The first Drake TVRO receivers were shipped in 1981.

#### CALENDAR/ Through August 30th

##### Television:

- July 18:** BORESIGHT, 9 PM ET, TR20, F4; World's smallest TVRO receiver, Part One M/A-Com's Bunker on Scrambling.
- July 23:** Satellite Showcase, F4, TR5, 10 PM.
- July 25:** BORESIGHT, 9 PM ET, TR20, F4; Wirth on surviving as a dealer, Part Two Bunker interview on scrambling.
- July 30:** Satellite Showcase, F4, TR5, 10 PM.
- Aug. 01:** BORESIGHT, 9 PM ET, TR20, F4; Wirth on dealer competition, Part 3 Bunker on Scrambling.
- Aug. 06:** Satellite Showcase, F4, TR5, 10 PM.
- Aug. 08:** BORESIGHT, 9PM ET, TR20, F4; Wirth on Dealer self-help, Uniden's Doctor Konishi (Part One).
- Aug. 13:** Satellite Showcase, F4, TR5, 10 PM.
- Aug. 15:** BORESIGHT, 9 PM ET, TR20, F4; Uniden's Doctor Konishi (Part Two).
- Aug. 20:** Satellite Showcase, F4, TR5, 10 PM.
- Aug. 22:** BORESIGHT, 9 PM ET, TR20, F4; drawing for CSD winner in Dealer Vacation In Paradise (contest).
- Aug. 27:** Satellite Showcase, F4, TR5, 10PM.
- Aug. 29:** BORESIGHT, 9 PM ET, TR20, F4; Preview of Nashville Show.

#### Shows/Meetings

- July 17:** Satellite Video Services **Product Introduction Seminar** (advance registration required). Contact Donna McCann 518/678-9581).
- July 26/27/28:** First SPACE scrambled dealer certification program, transmitted via satellite. Downlink sites in Denver, Knoxville, Sacramento, Dallas, Phoenix, Van Nuys, Milwaukee, Minneapolis, Merced (California). For information, costs, registration call SPACE at 703/549-6990.
- July 31:** Satellite Video Services **Block Conversion/SMATV** seminar (advance registration required). Contact Donna McCann 518/678-9581. **Note:** Additional seminars scheduled during August, call SVS for details.
- Aug. 2-4:** Fifth Annual Northwest Satellite Trade Conference, MGM Grand Hotel, Reno, Nevada. SPACE certification courses available. Contact 503/389-1553.
- July 13-15:** Jerrold (GI) Technical system seminar, Minneapolis, Mn. Contact Beth Schafer 215/674-4800.

#### Upcoming: Sep. 2-4:

STTI/SPACE Nashville Trade Show, Nashville, Tennessee. More than 700 booths, 12,000 people anticipated. Contact STTI 405/396-2574.

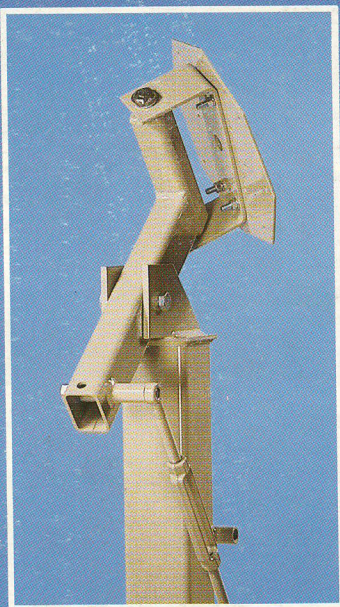


# Higher Performance

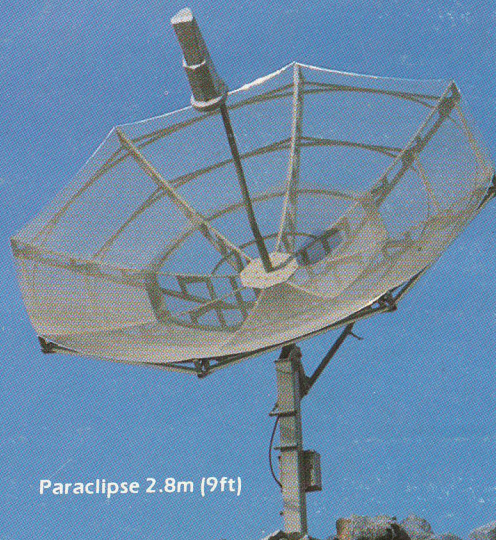
Our brand new polar "T" configuration means greater strength and an increase in polar tracking precision.

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Paraclipse 3.8m (12ft)



Paraclipse 2.8m (9ft)

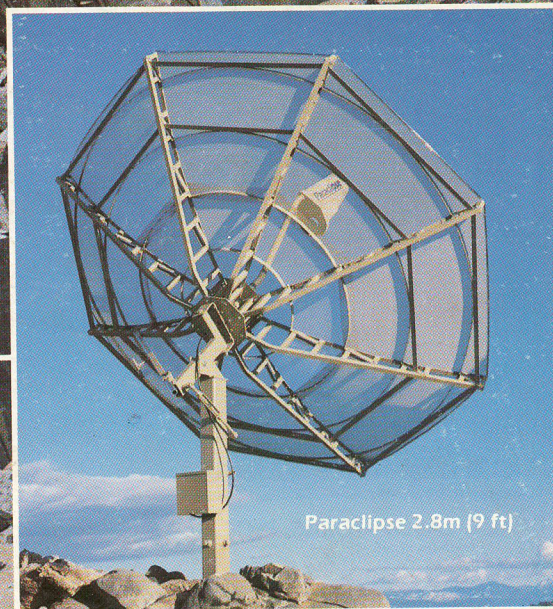
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Paraclipse 2.8m (9 ft)

Mark Fator photograph